ABSTRACT OF

The Harveian Oration

ON

THE FORCES OPPOSED TO HARVEY AND HIS RESEARCHES.

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MR. PRESIDENT AND GENTLEMEN,—The discovery of the circulation of the blood by William Harvey is commonly regarded among scientific discoveries as eminent if not unique, and this in the judgment not of Englishmen only. My purpose to-day is to show that at any rate it was made against enormous difficulties.

To put this discovery in right perspective we must have some vision of the history of philosophy, science, and medicine. Medicine, herein in contrast with theology and law, had its sources almost wholly in the Greeks; from them for good or evil it took its first scheme of thought; and in the schools of Hippocrates and of Alexandria it was based, more soundly, on natural history and anatomy. The noble figure of Galen, the first physiologist and the last of the great Greek physicians, portrayed for us by Dr. J. F. Payne in the Harveian Oration of 1896, stood eminent upon the brow of the abyss when, as if by some convulsion of nature, medicine was overwhelmed for 15 centuries. Galen practised the method of verification by experiment, first introduced, perhaps, by Archimedes; but after him it was lost till the time of Gilbert, Galileo, and Harvey.

In the growth of societies small civilisations have been sacrificed to the formation of larger aggregates, whereby stable equilibrium may be attained for the highest ends. Perhaps because of her very freedom of thought Greece never became a nation. Even the Roman peace, bought as it was at the cost of learning and the arts, was but a mechanical peace. In the wilder regions of the empire the bodies but not the wills of men were in subjugation, and even in Rome itself the sanction of patriotism was failing. Under the Frankish invasion the very traditions of learning and obedience seemed to be broken up. Then Europe was saved by the inspiration of the Christian religion which, entering as a new element into the ancient fabric of Roman empire, was now to hold men's service in heart and soul as well as in body; but to this end no mere mystic or personal religion could suffice; clothing itself with the political and ritual pride and even with the mythology of the pagan empire it inspired a new adoration, but it imposed upon men also a universal and elaborated creed. In the third century philosophy was born again in neo-platonism, the offspring of the coition of east and west in Alexandria, where all religions and all philosophies met. The world and the flesh were crucified that by the spirit man might enter into God. Pure in its ethical mood, neo-platonism, says Harnack, led surely to intellectual bankruptcy; the irruption of the barbarians was not altogether the cause of the eclipse of natural knowledge. Yet even then, as again and again, the genius of Aristotle came to save the human mind. Proclus, ascetic as he was, was also versed in Aristotle and he compelled the Eastern mysteries into peripatetic categories and bequeathed a formal philosophy to the Faith. Thus the first scholastic period was fashioned and the objects and methods of inquiry were determined for 30 generations. Rationalised dogma lived upon dialectic and conflicted with mysticism, but logic, dogma, and mysticism alike disdained experience. The Faith then was the first adversary of Copernicus, Galileo, and Harvey.

It was the fortune of the Faith that of all the treatises of Plato, the Timæus, the most fantastic and least scientific, should have survived to instruct the mediæval world, while those works of Aristotle which might have made for natural knowledge fell out of men's hands; moreover, the Categories and the "Interpretation" made for more than Aristotelian nominalism and turned men's minds rather to rhetoric and dialectic than to natural science. Thus it was that Plato's chimæra of the human microcosm, a reflection of his theory of the macrocosm, stood beside the Faith as the second great adversary of physiology. The influence of authority whereby Europe was to be welded together penetrated into all human ideas. As in theology was the authority of the Faith so was that of Plato and, in the second period of the Middle Ages of the Arabian versions of Aristotle and Galen. It is not easy for us to realise a time when intellectual progress, which involves the successive abandonment of provisional syntheses, was unconceived, when truths were regarded as absolute, when reasons were not tested but counted, when even Averroists found final answers either in Aristotle or in Galen. Thus in the irony of things was Harvey withstood by the dogma of that Galen who, in his own day, had earnestly appealed from dogma to nature.

In the Isagoge of Porphyry is distinctly set forth a problem which during the Middle Ages rent Western Europe asunder, a problem, says John of Salisbury, which engaged more of the time and passions of men than for the house of Cæsar to conquer and govern the world; a problem, indeed, which in our own day is not wholly resolved. This was the controversy of the Realists and the Nominalists, first brought to a clear issue by William of Champeaux and Roscellinus. Now Plato held ideas not as mere abstractions but as creative forces, and we shall see how potent was this function in mediæval thought. Every particular, every thing, was regarded by the realist as the product of universal matter and individual form. Now form might be regarded, and variously was regarded, as a shaping, determinative force or principle, pattern or mould, having a real existence apart from stuff; or, on the other hand, as a principle or pattern having no existence but as a conception of the mind of the observer. And for the Realist not individuals only but genera and species also have their forms, either pre-existent (*universalia ante rem*) or continuously evolved in the several acts of creation (*universalia in re*). For instance, the Church exists for the Realist as a thing apart from the wills of successive generations of individual men; man has fallen not only in many or all individual cases but also as a kind—a kind having an independent existence; in the Sacraments, again, there may be a change of hypostasis without change in sensible matter. Now if forms pre-exist (*ante rem*) the Will of God must be pre-determined; or if form be an immanent function acting *in re* we are landed in Pantheism. Thus Erigena, the brilliant prophet and Protestant of the first period of the scholastic philosophy, was virtually a Pantheist, as Spinoza was the last great Realist. Aquinas, who determined the philosophy now ruling in Rome, brought about a compromise which covers up rather than solves the difficulty. The problem, it is evident, was no hair-splitting; it dealt with the very nature and origin of being and it agitated the minds of earnest men at a time of fervid and widespread enthusiasm for knowledge.

Now closely allied to the argument concerning universals was that concerning "matter and form." Whether the terms used were "form and matter," "force, energy, or pneuma and matter," "soul, archæus, or life and body," "determinative essence and determinate subsistence," "male principle and female element," "the potter and the clay of the potter"; or whether, again, they were "effect and cause," "nature and law," "being and becoming," the riddle lay in the contrast of the static and dynamic aspects of things; in the incessant formation of variable individuals in the eternal ocean of existence. Even Francis Bacon never got out of the tangle of form, cause and law. It has been the temptation of philosophers of all times, and even of Harvey himself, than whom none had put better the conditions of scientific method, to suppose that by means of abstraction kinds may be apprehended; that thus they may get nearer to the inmost core of things; that by purging away the characters of individuals they may detect the essence and the cause of individuation, not perceiving that the content of notions is indeed in inverse proportion to their universality. We see this error continually to-day; for instance, we may discuss the causes of typhoid fever and bewilder ourselves by forgetting that there is no such thing as typhoid fever, and that the only causes of a general notion are the psychological causes of its generation in the mind of the thinker at the time; that which is due to objective causes is of course not the general notion but the particular case, a very different matter.

Before motionless stuff—before the problem of the "primum mobile"—even Harvey himself stood helpless when

he had come to the end of his admirable experiments and began to indulge in contemplation. In his need for a motor for his machine he was not able to divest himself of the language or even of the philosophy of his day. In his day he could not help regarding rest and motion as different things and motion as a superadded quality. The motion he attributed not to a property of the heart but of the blood—to its "innate heat," which is as far as he could possibly have got. But by way of explanation he adds that the innate heat of the blood is not fire nor derived from fire; nor is the blood occupied by a spirit, but is a spirit; it is also "celestial in nature, the soul, that which answers to the essence of the stars ..... is something analogous to heaven, the instrument of heaven." In denying that a spirit descends and stows itself in the blood or elsewhere, as an "extraneous inmate," he bravely says: "I cannot discover this spirit with my senses, nor any seat of it." And yet in the treatise "De Generatione" he propounds a theory of the impregnation of the female not by any material from the male but by the influence upon her of a "general immaterial idea," which even for his own time was very substantial realism. The riddle which oppressed the great thinkers from the Greeks to Lavoisier was then the nature of the "Bildungstrieb"—of the "*impetum faciens*." What makes the ball to roll? Does heart move blood or blood move heart, and in either case what bestows and perpetuates the motion? Telesius, the first of the brilliant band of natural philosophers in Italy of the sixteenth and seventeenth centuries, still sought this principle of nature in the "form" of the peripatetics. Gilbert regarded his magnetic force as "of the nature of soul, surpassing the soul of man." Galileo, although willing to conceive circular motion as perpetual and even self-existent, was unable thus to conceive rectilineal motion. All these naturalists, including Harvey and even Descartes, followed the mediæval world and Aristotle in deriving the source of motion directly from that of the spheres—from the quintessence.[1] Till Copernicus transfigured the cosmos, and Galileo and Newton carried terrestrial physics into the celestial worlds, the heavenly bodies were regarded as animated beings, themselves active, and by propagation from sphere to sphere animating all "sublunary" matter, wheels within wheels, even to its innermost particles.

Of the origin of energy we have not solved the riddle—we have given it up; but instead of finding its sources without we find them within. Harvey's contemporary Francis Bacon sagaciously guessed that heat is an expansive motion of particles, but he regarded heat and cold as two contrary principles. Almost in the same generation the brilliant John Mayow perceived a substance in the air "allied to saltpetre" which passed in and out of the blood by the way of the lungs or placenta. So innate heat gave way to phlogiston, and soon afterwards oxygen and the conservation of energy turned out to be "form," "spirit," "essence," "primum mobile," "causa efficiens," "potentiality," and the rest of them, and by Lavoisier a vast pile of metaphysics was blown into the air. But to kill a strong theory outright takes many a generation. Realism, shaken by Abelard and scotched by Hales and Ockham, not only survived to mislead Harvey, but it stretches its withered hand over us still, in the nursery, in the schoolroom, in the university, and in the great arguments of life.

As strong as realism was a third adversity—the pride of human mind. The asceticism of the East, disdainful of carnal things, brought the dualism of matter and spirit into monstrous eminence; and in respect of medicine in a few generations it turned the cleanest people in the world into the most filthy.[2] Almost to this day the mechanical arts, presumably concerned with lower categories, have been regarded as base, and the crafts, even of the laboratory, as unworthy of great souls. Anatomy had to labour also against both ecclesiastical and popular antipathy; chemistry and mechanics were gross pursuits unless endowed with the perilous distinction of alchemy and sorcery. Unfortunately, this charge upon the dignity of man was made heavier rather than lighter by Petrarch and the humanists of the Renascence; and in Oxford of the seventeenth century we find that Boyle was bantered by his friends as one "given up to base and mechanical pursuits." In a certain important respect medicine suffered greatly from this prejudice. It is obvious that, speaking generally, medicine would find its most positive and direct control in those diseases and in those therapeutical experiments which take place on the outside of the body. Yet surgery fell under the proscription of a handicraft, and, as such, was eliminated from the College of Physicians both in London and Paris; and thus the genuine work of such men as Paré and Gale was without influence upon medicine. Thus it came about that Francis Bacon says of the physicians of Harvey's day that they saw things from afar off as if from a high tower. From Erasistratus to Celsus physicians practised medicine as one art. Galen taught not the simplicity but the unity of medicine; and Littré points out that this unity is consistent in the Hippocratic writings. Surgery, by virtue of its imperative methods, was kept clear of philosophy on the one hand and of humanism on the other. Fortunately for Harvey his master Fabricius was as great a surgeon as anatomist; and such also was Fallopius. Thus it was that medicine at the end of the Middle Ages had not recovered the standard of Alexandria. And against this adversity also had the founder of physiology to contend.

Happily, Arabian scholastic philosophy took its root in Alexandria when neo-platonism had veered towards Aristotle and was therefore more uniformly peripatetic than the Christian scholasticism. It is one of the signs of the greatness of Aristotle that thus garbled and glossed his power made itself felt in the thirteenth century, chiefly by the great Franciscans Alexander Hales, Roger Bacon, and William Ockham—Roger Bacon whom we may call the first of the natural philosophers of the West. This former renascence determined the second period of the Middle Ages, the period distinguished by the Arabian version of Aristotle, by a check to the chimæras of realism, by some liberty of secular knowledge—for even bishops came out of the school of Toledo—and again by the coming of the friars whose influence upon the thought of the Middle Ages was a curious proof that as all ways are said to lead to Rome, so all systems of thought, in spite of the thinkers, led to natural science. The logic and rhetoric of the Dominicans, by their rationalism, defined, and in defining restricted, the dominion of the Faith. Men got used to reason and made a language for thought. And in the history of the unlearned Friars Minors we find, as elsewhere in history, that mysticism is more favourable to natural knowledge than the passionate dogmatism of Clairvaux or the dogmatic rationalism of St. Thomas. The Victorians, as Gerson after them, despised reason rather than feared it. Mysticism makes for individual religion, as in Glisson and Newton, rather than for the Church. Hence it may have been that independent thinkers, like Hales and Bacon and Ockham, entered the Franciscan order. The former renascence brought also a more tolerant spirit. Albert of Cologne owed as much to Avicenna as St. Thomas to Averroes—sages technically damnable, yet "mighty spirits" worthy of reverence. Dante put in hell, but on green meadows in an open place, lofty and luminous, not only Aristotle, Plato, and Socrates, but also Euclid, Ptolemy, Hippocrates, Avicenna, Galen, and "Averroes who made the great commentary." Universities were founded in France, England, and Italy. But the natural science which made the second renascence irresistible was absent from the former and at the end of the century a reaction set in. During the two following centuries in Spain freedom of thought was crushed out by the Church; but in the conflagration of books of philosophy medical works, such as the "Colliget" and the Commentary on Galen of Averroes, were largely spared; yet in the fourteenth and fifteenth centuries the very name of Averroes, "the mad dog that barked against the Christ," not only became ecclesiastically accursed, but also began to signify loose life as well as free thought; a resentment of which there was no trace in Albert or Aquinas.

Averroism, however, held its ground at Padua, which had become celebrated for medicine as Bologna for law, and although Averroism, like any other philosophy taught as a separate study, decayed, yet, effete as it was, it kept the ground open at a time when the tide was turning against free thought, when the commercial supremacy of Venice was declining, when the Spanish Inquisition was established in Rome, and when even the influence of the Florentine humanist was rather against natural knowledge than for it. No doubt the coarse and disingenuous scepticism of the physicians of North Italy and their pretentious manners alienated the humanists not only from themselves but also

[1] Vide Arist., De Coelo; and Met. xii.

[2] Those curious in such things will notice that the mediævalising clergy of our own day have discarded in their persons that fair linen which in their fathers was the emblem and example of cleanliness.

from natural philosophers, such as Telesius and Galileo; and Averroists and Humanists alike stood by at the burning of Bruno. Harvey entered Padua at a fortunate time; he found Galileo engaged in teaching and also in methodical research, for Galileo was not only a great discoverer, but he was the first to formulate fully and clearly that method which we know under the name of the "inductive method." The discovery of Greek texts had destroyed the conventional Aristotle and the conventional Galen; Gregory by the reform of the calendar had put the axe to the root of astrology; Newton was soon to carry terrestrial physics into celestial spheres; and Boyle was soon to create chemistry; anatomy was fully awake already. In England, moreover, with the accession of Elizabeth more spacious times were assured, and Charles protected Harvey. Clinical teaching also had been established at Padua by Fracastorius and Montanus, to be pursued in Heidelberg, Leyden, and Vienna. Physiology, however, was awaiting Harvey. Servetus had buried his conception of the lesser circulation under a pile of theology; Columbo and Fabricius, however, had prepared the way, not so much by the value of their discoveries as by their practice of the experimental method in this science, for the anatomists, Galenists to a man, had done next to nothing for physiology.

The genius and courage required to make discoveries like that of the circulation of the blood cannot be measured directly; there is no method of determining the specific gravity of such adventures: I have tried, however, to shadow forth the weight of the social systems, opinions, prejudices, and habits against which Harvey's gigantic effort was made. Almost in the year of the publication of the "De Motu Cordis" (A.D. 1628) the Parliament of Paris issued an edict that no teacher shall promulgate anything contrary to the accepted doctrines of the ancients. Under such conventions Harvey's discovery burst like an earthquake—under corrupt Galenism, venerable sophistries, current abstractions bequeathed by realism, and long-winded dialectics on critical days, coctions, derivatives, or revulsives, and dogmas based on uncritical subservience to texts. His work stood out even more ascendant against a lurid background of folk superstitions—of vampires, witch-burning, magic, cabbalism, astrology, alchemy, chiromancy, and water-casting. In terrestrial and celestial physics Galileo, persecuted as he was, had some strong current with him; Copernicus was before him, Kepler was beside him; but in physiology upon the path of Galen the waters had closed as upon the track of a great ship; and among Harvey's contemporaries and immediate forerunners there was none to claim a share with him in the discovery of the central fact of physiology, or in his application of the method which opened the way to Pecquet, Glisson, Stenc, Wharton, Willis, Haller, and Bernard.

An Address
ON
APPENDICITIS.

Delivered before the Mirfield Medico-Chirurgical Society.

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GENTLEMEN,—I very much appreciate the kindness which prompted the members of this society to ask me to be here this evening, and I felt that I had only one course open to me and that was to accept your kind invitation.

The subject which I have selected to bring before you is appendicitis. I am afraid, however, that I can tell you very little which you do not already know or which you cannot find in the numerous monographs on this subject that have been written during the past 10 or 15 years. Still, I have thought that to hear how the subject is viewed by one who, like myself, enjoys the privilege of being attached to the full surgical staff of a great provincial hospital may be of interest, and perhaps of some value, in helping you in the diagnosis and treatment of cases of this nature which may present themselves in your practice. To bring one's thoughts to a focus from time to time as to the pathology of any class of disease, or to review any portion of one's work—the mistakes and failures as well as the successes—is always a useful and wholesome discipline. We see where we stand and we recognise difficulties which we have yet to overcome in points of pathology, diagnosis, and treatment. To no class is this more important than to members of our profession and that, I think, is one of the great functions of our medical societies. We are so accustomed to give dogmatic opinions to our patients that if we had not the restraining influence of the friendly criticism of our *confrères* we should be in danger of believing our own dogmas and cease to have an open mind, receptive for the new developments of an ever-advancing knowledge.

The whole subject of appendicitis is of recent development—15 or at most 20 years—and it is only during this period that the important part played by disease of the vermiform appendix has been appreciated. Here and there a few observers had pointed out the fact that the appendix was diseased and perforated in some fatal cases of peritonitis. In 1812 an English physician, Dr. Parkinson, brought before the Royal Medical and Chirurgical Society of London a case of ulcerated and perforated vermiform appendix from a boy, aged five years, who had died from general peritonitis, and it is of interest to us in Yorkshire to recall the fact that in 1861 the late Mr. Nunneley of Leeds described such a case in the Transactions of the Pathological Society of London. Mr. Darwin has not overlooked the condition and refers to it in his "Descent of Man," which was published in 1874. Up to the last few years isolated cases may be found by the careful and patient student scattered throughout medical writings. Before the important part which is played by the appendix was definitely settled the diseases in its neighbourhood were thought to have arisen in the cæcum, and we have such terms as "typhlitis," "peri-typhlitis," and "para-typhlitis" to describe the condition. These expressions have now been practically superseded by the term "appendicitis," a word which most of us object to, but which is now so universally in use as to have become a permanent fixture in our nomenclature. A recent writer has suggested the term "epi-typhlitis," but I very much doubt if he will succeed in popularising it. Pathologists, making post-mortem examinations with the fixed idea that the disease was in the cæcum, did not upset the views of the orthodox by examining and inquiring into the condition of the appendix. To many observers—workers in America, on the continent, and in this country—we owe our present knowledge. [The anatomy, the variations of position, and the histology of the appendix were described and illustrated by drawings and specimens. One interesting specimen was shown in which the appendix was found in the sac of a right inguinal hernia attached to an undescended testis which had become malignant. The hernial sac was opened during the operation of castration, and the appendix being found adherent to the testis it was removed.]

Having briefly reviewed the anatomy and histology of the appendix let us inquire into the common causes producing the inflammatory changes. It is more than probable that the presence of scybalous masses or concretions in the appendix is the starting point of a very large proportion of inflammatory processes. By some it has been assumed that these masses are formed in the appendix—and this may be so in a few cases, especially in a long appendix—but it is more than probable that in the majority of cases they are formed in the cæcum. The inflammatory changes are probably produced in this way. The concretion enters the appendix and, being large for the lumen, dilates its walls, and by preventing the return of blood produces a venous stasis, or it may simply produce a certain amount of local irritation and perhaps an abrasion of the mucous membrane, and thus a lowering of the vitality of the parts. Micro-organisms, the second factor, now come into play. These are always present in the gut and they attack its walls the moment its vitality is lowered or its walls are injured. A great variety of micro-organisms are present in the gut. The bacillus coli communis and various forms of streptococci and staphylococci are the probable offenders.

In the milder cases the irritant is quickly removed and the inflammatory condition subsides. In the sub-acute and acute cases the action of the offending body is prolonged, so that in some cases the inflammatory condition extends beyond the limits of the appendix and a perforation may form or the

whole appendix may become gangrenous. There is some analogy between this condition and the condition produced in a knuckle of gut in a strangulated hernia, but in this instance the constriction is outside the gut, producing the venous stasis and so lowering the vitality of the walls of the bowel. The micro-organisms at once seize their opportunity and may either produce gangrene or some milder form of inflammatory change, for in the fluids found in the sacs of strangulated hernie micro-organisms are invariably present and have in all probability come from the bowel. About a year ago I operated on a case of strangulated femoral hernia in which this condition was beautifully demonstrated. On opening the hernial sac about half an ounce of stinking pus escaped, and after wiping this away a knuckle of gut with a portion of infiltrated omentum was found, these structures forming one wall of the abscess and preventing infection from spreading to the peritoneal cavity. The gut was covered by a white purulent membrane. After thoroughly wiping out the sac I was able to detach the membrane from the bowel; this left a deeply congested surface which was roughened and bled from two or three points. After having rendered the parts antiseptic I ventured to relieve the strangulation and to return the parts into the abdomen. The patient made a good recovery. Here, I take it, is a demonstration of almost an exact counterpart of what takes place in cases of inflammation of the appendix. In the case of the hernia, had the strangulation been a little more complete or had the operation been delayed a little longer gangrene would have been produced. There can be no doubt that the pyogenic organisms came from the intestine. If you damage any portion of the intestinal wall the micro-organisms are soon at work and may produce any gradation of inflammatory change, ulceration, and even gangrene of the bowel. Two years ago I had a child under my care who had been run over, the wheel of a cart passing over the abdomen. On opening the abdomen about 60 hours after the accident we found a gangrenous patch of the small intestine opposite the mesenteric attachment about two inches long and two-thirds of an inch wide. Round about this was a certain amount of peritonitis, which had been obviously produced by the organisms having gained access by the damaged bowel to the peritoneum. The bowel was stitched to the surface around the gangrenous patch, which separated and left a fistula. The child died after a second attempt to close the intestinal fistula.

Other causes producing appendicitis are foreign bodies in the appendix—e.g., pins, needles, fish-bones, fruit-stones, shot, &c. I removed a specimen some time during last year from a man aged 20 years. The exciting cause was a large needle. The patient made a good recovery. Other causes are kinking and twisting of the appendix; I have removed several which illustrate this point. Amongst the general diseases tubercle may be mentioned. It is sometimes found in the cæcum, but it is rare to find tuberculous disease of the appendix. Typhoid ulceration, malignant disease, and actinomycosis are amongst the rare causes. Gout, rheumatism, and cold are said sometimes to be causes, and the disease may be simulated by hysterical patients. The ascaris lumbricoides is said to have been an exciting cause. In two cases of suppurative appendicitis associated with large abscesses which I have operated on some days after the operation ascarides were passed through the opening. The disease is said to be more common in males than in females in the proportion of 78 to 22, and more common in the summer months.

I.—SIMPLE APPENDICITIS (NON-SUPPURATIVE).

The first class, simple appendicitis—the catarrhal appendicitis of the Americans—may be (1) acute or (2) chronic (recurrent or relapsing appendicitis). Here probably the inflammation is confined to the appendix. The inflammatory processes, starting in the mucous or sub-mucous tissues, rapidly spread so that in about 48 hours there would be some roughening of its peritoneal covering. The appendix becomes increased in size and it appears turgid and distended. Operations have been performed within two or three days of the onset and this condition has been observed. If the attack subsides the inflammatory materials become absorbed and if the parts are examined a short time after the attack it is quite possible that no evidence of such an attack could be found. In the same way, if the tonsils are examined after an attack of acute tonsillitis nothing may be seen to suggest that the tonsils have been inflamed. If these attacks are often repeated or the disease assumes a chronic form, then definite permanent changes will be found—thickening of the appendicular walls, adhesions to surrounding parts, and partial or complete obliteration of the appendix. It is this condition which is responsible for some of the attacks of relapsing appendicitis. In this class the patients suffer from acute and sub-acute attacks, at intervals varying from a few weeks or months, and in the meantime rarely feel quite well. There is always a little tenderness or something to remind them that they must be careful, a consciousness of something in the right iliac fossa. Some of these patients become chronic invalids. It is important to operate on these patients between the attacks if possible. This condition is often associated with twisting and adhesion of the appendix, the results of several attacks of either acute or chronic simple appendicitis; in some of these cases there has been suppurative appendicitis, the abscess probably becoming encysted and the contents dried up. A fresh irritation arises, to be again lighted up into an acute inflammatory attack.

In some of the cases very little may be found at the operation. I removed a specimen about a year ago from a young lady, aged 23 years, who was under the care of Dr. C. E. Salter of Scarborough, who helped me at the operation, Dr. Geoffrey Thompson kindly giving the anæsthetic. There were no adhesions. The appendix was full of a softish concretion and the walls appeared turgid and inflamed so that it looked very like the erect penis of a child. This patient had had two definite attacks of appendicitis, one in May, 1897, and another in May, 1898. During both attacks she was in bed for about six weeks. Since the last attack she had never been quite well, always having some pain and tenderness in the appendicular region. The patient made a good recovery and since the operation she has been quite well. I have other specimens of relapsing appendicitis all successfully removed, and it is a successful, although at times a difficult, operation. According to Ewald at least 90 per cent. of these cases clear up and the question of surgical interference need never be entertained. My own impression is that the percentage is a great deal lower, and I do feel that there is scarcely ever a case of appendicitis in which those in charge may not have to consider the advisability of operative interference.

There are other simple varieties in which a coagulable exudation (yellowish translucent lymph) may be found extending for a considerable distance around the appendix and cæcum and forming a very definite tumour.

II.—SUPPURATIVE APPENDICITIS.

I will now consider the suppurative cases. In this condition the contents of the appendicular canal are either purulent or muco-purulent, the walls are infiltrated with a purulent exudation, and at one or more places the appendix may have perforated. In most of these cases the pus is shut off from the general peritoneal cavity by adhesions and the quantity of pus may vary from a few drops to several ounces. If the inflamed appendix is lying on the external iliac vein or artery in rare cases these have become perforated. If it is in contact with the anterior abdominal wall an abscess may form here, and if it is not operated upon it may burst and discharge itself. In some cases the inflamed appendix may become adherent to the peritoneum; covering the iliac fascia, it may ulcerate through the fascia and an abscess may form beneath it, the inflammation extending into the cellular planes and producing a large tumour by the widespread cellulitis, reminding one of large inflammatory swellings about the lower jaw secondary to a decayed tooth. The whole of this condition may subside, leaving a small encysted abscess. About a year ago (on March 6th, 1899) I operated on such a case.

A woman aged 35 years, whom I saw with Dr. W. H. Holliday of Gildersome, had an attack of appendicitis in October, 1898. She kept her bed for three or four weeks and was away from work for another fortnight. At the time of the attack there was a large swelling in the right iliac fossa extending up into the lumbar region. I think it was one of the largest swellings I have ever seen. The swelling subsided and she felt comparatively well, getting up and performing her household duties. A second attack commenced on Jan. 7th, 1899. There was a good deal of pain, but this time there was practically no swelling. During this attack she had a relapse and after that made a good recovery. At the time of the operation no swelling could be felt, there was just one tender place in the iliac fossa. At the operation I found the appendix acutely bent on itself,

and the apex of the bend attached to the peritoneum covering the iliac fascia. In separating the adhesions the free end of the appendix was torn off and it was found that there was a perforation the edges of which were adherent to an opening in the peritoneum and the iliac fascia. This opening led to an abscess extending upwards beneath the fascia and containing about a drachm of inspissated non-offensive pus. This was carefully scraped out and cleansed and some iodoform was put in the cavity, the appendix was removed, and the abdomen was closed. The patient made a good recovery.

When the appendix is situated behind the cæcum an abscess may form and discharge itself into the cæcum. By some this is supposed to be a very common method of spontaneous cure. I have had an opportunity of seeing this condition in a case which I operated on and which terminated fatally. A large stinking abscess had formed behind the cæcum and ascending colon, probably secondary to a suppurating appendicitis. A large opening was found in the cæcum communicating with the abscess. The man was suffering from marked septic absorption before the operation and he died 48 hours after it. In other rare cases the pus has been discharged by ulceration into the bladder or rectum, but instances of this condition I have never seen. A certain proportion burst into the peritoneal cavity and produce a general suppurative peritonitis. It is now generally agreed that when the presence of pus is ascertained the case is one in which a better and more rapid result will be obtained by surgical interference than by natural means. The great difficulty is to be certain of the presence of pus. Perhaps, on the whole, the safest line of practice will be: When in doubt, operate. It is astonishing how rapidly pus may form. On Oct. 13th, 1898, I operated on a girl, aged 12 years, about 60 hours after the appearance of the first symptoms, and I found a sloughing appendix, which had perforated, lying in an abscess cavity. There was also some purulent inflammation about the coils of intestine, in the cæcum, and in the omentum in the right iliac fossa—the case was one of localised suppurative peritonitis. The abscess cavity was cleaned, the appendix was removed, and the patient made a good recovery.

In connexion with the subject an interesting problem here presents itself. Is it possible for pus, when it has once formed, to remain inert, to become encapsuled, and ultimately to become absorbed? I think that it is possible, and I have seen cases which I venture to think will not bear any other interpretation. I have operated on three or four cases of relapsing appendicitis in which I have not at all expected to find any pus and have found small quantities encapsuled. I feel that these patients have been subjected to great risks by the delay, although all of them made good recoveries. In the foregoing classes general peritonitis very rarely takes place during the first attack.

III.—GANGRENOUS APPENDICITIS.

The greater part of the appendix may become gangrenous or a localised patch may form in its walls. It is in these cases that one, as a rule, finds a hard concretion near the cæcal orifice of the appendix. Here venous stasis is produced with a rapid œdema, and very quickly the micro-organisms finish the work of destruction so commenced. In some cases a rapid line of demarcation is formed and the gangrenous portion of the appendix may be found free—necrotic amputation. It is these cases which are so rapidly and tragically fatal, the patient dying in a short time from general peritonitis. In other cases the purulent collection is limited by adhesions, so that the whole peritoneum is not involved, and in this cavity the gangrenous appendix may be found, but often it is very difficult to recognise it. The perforation is generally a little distance below the concretion, although sometimes it may be exactly at the level of the concretion. In these cases operation is the only chance. I have been fortunate enough to have two successful cases of this kind in both of which there was very extensive peritonitis—I will not say general—associated with a gangrenous appendix.

CASE 1.—A woman, aged 29 years, was operated upon on April 11th, 1897. There was very extensive peritonitis with gangrenous appendix. The appendix was removed and the peritoneum was drained. I do not think that I ever saw a patient who was so ill recover. Her hands and face were cold and blue after the operation and the pulse was very rapid, small, and feeble.

CASE 2.—A man, aged 22 years, was seen by me with Dr. C. T. Empey of Cross Hills. He was suffering from complete gangrene of the appendix, and he was operated upon seven days after the onset. The abdomen was opened in the middle line. There was extensive peritonitis. The appendix was removed and the peritoneum was drained. The patient made a good recovery.

The following three cases were fatal:—

CASE 3.—A man, aged 21 years, was operated upon on June 29th, 1898. Five days after the onset gangrenous appendix was found with extensive peritonitis. The appendix was removed and the abdomen was drained.

CASE 4.—The patient was a man, aged 25 years. The symptoms commenced on March 1st, 1896, and the patient was medically attended on the 7th. The operation was delayed till the 9th. The abdomen was opened in the right iliac region and a large abscess with extensive peritonitis was found. The appendix was not sought for, as the patient's condition would not permit of a prolonged operation. He died on March 14th. The appendix was removed at the post-mortem examination.

CASE 5.—The patient was an adult, aged 29 years. The operation was performed in August, 1896, five days from the time of the attack. The operation was delayed for 48 hours. There was extensive peritonitis. The gangrenous appendix was removed and the peritoneum was drained. The patient died three days later. The appendix was completely gangrenous.

The diagnosis of appendicitis is often a very easy matter, but it is sometimes very difficult. Sometimes it comes with a sudden onset and sometimes with vomiting. The symptoms are acute pain in the region of the cæcum, generally radiating to the umbilicus, a quick pulse with a rise of temperature, a flushed face, and in some cases obstinate constipation and no passage of flatus. On examining the abdomen the movements of the abdominal wall over the cæcal region are seen to be limited. There are some fulness and tenderness in this region. It may be interesting here to discuss how this fulness is produced. Fæcal accumulation in some cases and in others adhesions to, and inflammatory changes in, surrounding parts, the anterior abdominal wall, intestines, and omentum may account for it. The latter is a very common cause. I here show you some specimens in which the appendix was embedded in a mass of omentum which was removed with the appendix. In two or three instances I have found abscesses in the omentum. Other causes of the swelling are collections of pus and masses of coagulated lymph. The tender spot, McBurney's point, is often present. This can only be taken in association with other signs and symptoms in helping to make a diagnosis. It may be absent in cases of appendicitis and present in diseases not connected with the appendix.

In all cases a rectal examination should be made. Frequently a distinct fulness can be felt on the right side of the pelvic brim, and the rectal mucous membrane is sometimes hot and œdematous, making the examination difficult. In the simple cases, after 48 hours, the symptoms may begin to subside and the signs may clear up in about 10 or 14 days. In the suppurative cases the symptoms will increase in severity and the signs will become more marked during the extension of the inflammatory process. The pulse will become more rapid, the abdomen more distended, and intestinal movements may be visible. When these conditions are present surgical interference must be discussed. The disease may advance a stage further, fluctuation may be obtained, and the abscess may either burst into the general peritoneal cavity or become evacuated by other routes. In the acute perforating cases the course of the disease is more rapid. Often there is an attack of pain in the right iliac region which comes on 24 or 48 hours before the greater pain and collapse associated with perforation. The patients are often strong, active people and they will fight against the disease, going to business or doing their work until the onset of the perforation. On seeing the patient soon after this has happened the pain will be found to be great. The hands are cold and generally moist and the face has an anxious expression; it is flushed and it soon becomes dusky. The duskiness is not easily to be seen by artificial light, and if the pain should have been relieved by morphia the flushed face may quite mislead the medical attendant, so that the gravity of the condition may be under-estimated and it is sometimes difficult to convince the friends that the patient is really seriously ill. The pulse will be small and very rapid and the temperature may be sub-normal. On examination of the abdomen it may either be greatly distended or there

may be retraction, with the abdominal muscles as hard as a board, and the limbs drawn up. There may be no tumour felt in the cæcal region and no one spot may be more tender than another. The urine is scanty and sometimes suppressed and it contains albumin and indican.

This is a picture of a commencing acute general peritonitis due to some peritoneal catastrophe, and it is sometimes very difficult to make a diagnosis as to its exact cause. The making of a correct diagnosis may be nothing more than a shrewd guess. Appendicitis which has gone on to perforation, however, is by far the most common cause. Other causes are perforated gastric ulcers or duodenal ulcers, one of the many causes producing acute intestinal obstruction, and some cases of ruptured tubal pregnancy; in the latter condition the dominant symptoms are, as a rule, those of internal hæmorrhage. Still, in some cases it may be quite impossible to decide. For these conditions only one form of treatment is of any avail—that is, operation; and lately for these extreme conditions recent results have been decidedly encouraging. If no operation is done death takes place in a few days. There is great and frequent sickness, the tongue is kept moist, and there is pain in the abdomen. The face and extremities become cold and livid, the pulse becomes rapidly quicker and is pegging out. The patient often remains quite conscious to the last moment, so that the friends cannot believe that the end is so near. In a few cases acute delirium may set in and some patients die comatose.

Many mistakes may be made in the diagnosis of appendicitis—renal and biliary colic, psoas or iliac abscess, hip-joint disease, and, in women, diseases of the uterine appendages. I have twice opened the abdomen in the region of the appendix expecting to find the organ embedded in a mass of adhesions, and I have found instead tuberculous disease of the cæcum. In one case the appendix was found and removed; in the other it was embedded in a tuberculous mass and was not seen. Both cases developed troublesome fæcal fistulæ and subsequently died from general tuberculosis. In the relapsing cases a careful search must always be made to exclude tubercle before recommending an operation. I have twice operated expecting to find malignant disease and have been greatly surprised to find that I had a simple appendicitis with very firm adhesions to deal with. In the first case the end of the appendix was firmly embedded in the omentum and around the end of the organ was a small abscess in the omentum connected with a small perforation. It was a very hard mass and was moveable. The patient had noticed it for some months and had lost considerably in weight. In another case a hard growth infiltrated the abdominal wall in the region of the appendix, forming a prominence which could be easily seen and felt, and from this a good deal of induration extended into the false pelvis. On cutting down I found the mass to be composed of hard fibrous tissue, evidently due to the organisation of inflammatory products resulting from a relapsing appendicitis. The appendix was successfully dug out. I have a case to record which is the converse of the last two cases. The patient was a man, aged 34 years, who was diagnosed by the medical man in charge and by one of my medical colleagues to be suffering from relapsing appendicitis—a diagnosis in which I quite concurred. I opened the abdomen and found malignant disease of the cæcum and a peritoneum studded with secondary growths. The last mistake I have to record is one which I venture to think few will have a chance of repeating. It was an encapsuled decomposing ectopic gestation situated in the cæcal region. As it is so unusual I will read brief notes of the case.

CASE 6.—The patient was a woman, aged 28 years, who was admitted into the Leeds General Infirmary on Nov. 13th, 1897. The history of the case was as follows. On May 6th, 1897, the patient complained of an attack of pain in the right iliac region which was accompanied with vomiting and complete constipation lasting for two or three days. The attack kept her in bed for a week. Her medical man told her that she was suffering from a "stoppage of the bowels and inflammation." Though she had some pain every day she got up until June 18th. On this date a similar attack commenced but of greater severity; the bowels were confined for a week and they were then opened by enemata. At this time a swelling appeared in the cæcal region. During July, August, and September she had two more attacks, in the intervals of which she was not free from pain and was quite unable to attend to her household duties. Three weeks before admission into the infirmary she had another attack of pain in the body which was accompanied with vomiting and constipation. At the end of three days the bowels were opened and although she was in pain she again got up. I saw her on Oct. 26th, when she was suffering from acute intestinal obstruction, with vomiting, constipation, and abdominal distension, and there was well-marked visible peristalsis. On rectal examination there was found a swelling of about the size of a closed fist in the cæcal region and there was some fulness in the right side of the pelvis. I made the diagnosis of recurrent appendicitis and advised her to come into the infirmary. This she refused to do. Soon afterwards the bowels were opened, the vomiting ceased, and the pain disappeared. The swelling diminished in size. She had another similar attack and she was admitted to the infirmary on Nov. 13th, 1897, and was operated upon on Nov. 21st. Ether was administered. An incision about four inches long was made obliquely in the right iliac region, commencing one and a half inches internal to, and a little above, the anterior superior spine. At a later stage of the operation another incision was made from the middle of this downwards and at right angles. The structures were divided down to the peritoneum, all bleeding points were stopped, and the peritoneum was opened. In the iliac fossa an oval swelling presented. Its lower limits were close to Poupart's ligament. It extended inwards to the pelvic brim and was covered with firm fibrous tissue. There were many adhesions to the surrounding viscera. The parts around were carefully packed and an opening was made with the finger about the middle of it, near Poupart's ligament. The swelling was found to contain some foul and stinking pus and a mass of decomposing fœtal bones of about the fourth month. These were removed and the cavity was cleansed and packed with gauze for drainage. The edges of the opening were then stitched to the peritoneum and the peritoneum was closed. The muscles and skin were sutured separately. The patient made a good recovery and left the infirmary on Feb. 5th, 1898, the wound having quite healed.

TREATMENT.

I shall not discuss the general treatment of this condition, but I would urge, if there is no improvement in the patient's condition after 48 hours from the onset of the attack, that those who will be responsible for the operation should have a chance of seeing the case and of deciding at this stage whether or not an operation should be performed. I have never yet regretted operating, but I have often regretted that operation has not been decided upon earlier. There are no golden rules as to when to operate or when not to operate. Each case must be carefully studied. It is an advantage to operate when there is no pus, for then the appendix can be removed by a muscle-splitting operation which is much less likely to produce a hernia. When pus is present and is localised one must work very carefully so as not to infect the peritoneum. This can be done by carefully using strips of gauze and wiping out as one goes along; in the majority of these cases it is necessary to drain. The pus is generally found about the appendix, extending to the pelvic brim and perhaps into the pelvis, behind and to the outer side of the cæcum, and the parts in front of the cæcum. Here it is shut off from the general peritoneal cavity often by recent adhesions to the omentum which may be infiltrated with pus. I think that the more experience one has the more one is inclined to search for and remove the appendix; but there are certain cases in which the condition of the patient will not admit of this, where we must simply be content to open the abscess and drain, leaving the appendix. Fortunately a fair percentage of these cases may recover and some of them may never have a relapse.

The abdominal wall in the region of an inflamed appendix is generally very vascular. Often the muscles and intermuscular planes are œdematous and sometimes purulent. In the gangrenous cases with extensive peritonitis something heroic must be done for so desperate a condition: more extensive exposure of the peritoneum for cleansing and drainage, getting the bowel to act by saline purgatives, &c.

Formerly all cases of appendicitis were considered to belong to the province of the physician, but now surgery has put forward such strong claims that in a certain number of cases an operation must be performed, and in others the advisability of an operation must be discussed. I have endeavoured to illustrate this paper with as many personal observations and experiences as possible. I hope it may not

have proved altogether uninteresting to those who have kindly favoured me by listening to it.

[Mr. Littlewood illustrated his address with about 30 specimens which he had recently removed. The specimens were mounted in large test-tubes so that they could be easily handed round for demonstration and the different pathological changes noted.]

ON THE RÔLE PLAYED BY THE SPLEEN IN THE PANCREATIC DIGESTION OF PROTEIDS.

BY HENRY F. BELLAMY.

IT is probable that no organ of the body has furnished such abundant food for physiological reflection and research as the spleen. In all ages speculation has been rife as to the rôle played by it in the animal economy, and observers in all countries have not been wanting who have ascribed more or less hypothetical functions to an organ which, as they justly argued, possessing such overwhelming importance as regards position and blood-supply, should in the natural order of things be possessed of functions equally weighty. Attempts, however, at the solution of the problem have enjoyed only a limited measure of success, chiefly in face of the almost insurmountable difficulty that in all animals, from man downwards, possessing a spleen the organ can be surgically extirpated without *apparent* disadvantage to the organism as a whole. It is the purpose of the present article, without any reference to the possible and perhaps equally important manner in which the spleen acts in other departments of the animal economy, to consider it in the light of a powerful, and indeed essential, factor in the pancreatic digestion of proteids and to bring forward, as briefly as possible, such evidence as may be forthcoming in support of such a view.

While pursuing my own work here in Lausanne it has been my privilege and pleasure to have had many conversations on this subject with Professor A. Herzen, the distinguished occupant for many years past of the chair of Physiology at the Lausanne University, a physiologist who, formerly in conjunction with Professor Schiff (the original proclaimer of the doctrine of the functional co-relation of spleen and pancreas) has devoted practically his whole lifetime to this and kindred questions, and it is in deference to his wish to invite the attention and criticism of English physiologists to what appears to him and his supporters an important contribution to our present meagre knowledge of the spleen, that the present article is penned.

Before proceeding to a detailed discussion of the evidence appertaining more nearly to the question, it would be as well to recall as briefly as possible several fundamental facts in connexion with the peptonisation of proteids by the pancreatic juice, for the discovery of which physiology is largely indebted to the researches of Corvisart, Schiff, and Meissner. The experiments of these observers were performed both with the natural juice and with infusions of the gland. For the study of the natural juice experiments on living animals (principally on dogs and cats) were conducted in three different ways. 1. By establishing *pancreatic fistulæ* through which the secretion of the gland was drawn off by means of a slender cannula fixed in the duct; this method, although possessing the disadvantage that the fluid flowing through the cannula soon ceased to be normal, gave in successful cases results identical with the two following. 2. By causing *duodenal fistulæ* analogous to gastric fistulæ and observing the progress of digestion in the living and normal duodenum of small cubes of coagulated albumin enclosed in coverings of fibrous membrane, the latter having the property of resisting the action of the pancreatic juice without preventing its penetration; by this means it could always be rendered certain that the albumin was digested by the pancreatic and not by the gastric juice, since the latter would first destroy the envelope. The presence of the cannula interfered in no way with the health of the animal. 3. By isolating the whole duodenum after introducing into it a measured quantity of boiled albumin between two ligatures placed respectively at the pyloric and jejunal ends, the pancreatic juice was thus able to act functionally freely in this living receptacle from which if desired, although not essential to the experiment, the bile could be excluded. In order, however, to observe the progress of peptonisation by this method, it was necessary, after some hours, to sacrifice the animal.

The results claimed from these experiments in so far as they concern the present question were briefly these. Corvisart found that in dogs in full digestion there was for a certain time a constant rise to maximum in the digestive power of the pancreatic juice, succeeded by an equally constant fall to minimum. The maximum was attained during the eighth hour after the ingestion of a meal, the minimum from the thirteenth to the eighteenth hours. Meissner announced that in fasting animals the pancreatic juice possessed little or no peptonising power. Schiff,[1] after a number of experiments on such animals as rats, guinea-pigs, rabbits, and young dogs or dogs of small breed, found that during fast the pancreas really possessed almost no peptonising power; the albumin imprisoned in the duodenum remained there for whole hours without dissolving, the infusion of the gland giving results equally negative. On the other hand, in the case of ravens and adult dogs of large breed the pancreas preserved during fast a certain digestive power, even in animals in a condition of complete fast which had digested a copious meal the day before; under these circumstances, indeed, the infusion of the whole pancreas of a large dog was capable of digesting from 50 to 60 grammes of albumin. In such dogs this condition of weak digestion was maintained until towards the fourth hour after the meal, after which time digestion proceeded very much more rapidly, so that at the time of maximum the pancreatic infusion was capable of digesting from 50 to 60 grammes of albumin. As regard cats and small dogs, he was able to confirm the results of Corvisart. By these experiments, then, the above-mentioned observers succeeded in establishing the following two facts: (1) that the activity of the pancreatic juice or of an infusion of the gland is not continuous but intermittent, and (2) that maximal activity appears regularly during the culmen of gastric digestion (from six to eight hours after a meal) at which time it is very considerable.

Passing now for the moment from the pancreas to the spleen we will proceed briefly to examine the behaviour of this organ in relation to digestive phases. Lauret and Lassaigne in 1825 discovered that the spleen began to become congested at the moment when the stomach discharged chyle abundantly into the duodenum; that this is, however, merely a coincidence is shown by the fact that the congestion also occurs after ligature of the pylorus. Dobson in 1847 discovered that in a dog three hours after a meal the spleen is still as small and as anæmic as during fast; that it commences to dilate in the fourth hour after a meal; at five hours after it has attained its maximal turgescence, decreasing afterwards from the seventh hour to attain towards the twelfth its minimal volume. [Landois in the same year found that in the rabbit the relative weight of the spleen to the body-weight of the animal was the same two hours after a meal as after 48 hours of fast; that it increased considerably from the fifth hour, remaining high until the twelfth hour. In 1835 Schönfeld, under the direction of Van Deen, compared the weight of the spleen with that of the body of six rabbits of the same age fasting and digesting. His results are given in the following table:—

Relation between Weights of Spleen and Body during Fasting and Digestion.

Hours after meal.	Weight of spleen.	Proportion to body-weight.
0	3	1 : 2180
2	4	1 : 1137
5	6½	1 : 0738
8	5	1 : 0996
12	5	1 : 1062
24	2½	1 : 2140

Observations on the human body have confirmed these facts. Dittmar and Vogel in 1850, studying from this point of view the changes in volume of the spleen of man

[1] Recueil des Mémoires Physiologiques, vol. iv., cap. Pancreas et Rate. Lausanne, 1898.

by means of percussion, found that it began to swell four hours after a meal, reached two hours later its maximal volume, and gradually diminished afterwards to its minimum.

The striking synchronism in the splenic congestion and the presence of trypsin in large quantity in the pancreatic juice or in an infusion of the gland was observed by Schiff and caused him to repeat all his former experiments on the tryptic digestion of albumins, this time on animals in which the spleen had been for some time removed and on others in which it was prevented from dilating by ligature of its hilum at the time of the experiment. He experimented in this way upon a very large number of dogs and cats; nearly all his experiments were double—i.e., performed at the same time and in the same manner on two animals selected so as to resemble one another as much as possible, and in only one of which had the spleen been extirpated or ligatured. These experiments were of two kinds: (1) those conducted with pancreatic infusions, and (2) those carried out in the living duodenum, the following being typical examples.

I. *Infusions.—Ligature of the hilum of the spleen.*—Two cats, after fasting for 19 hours, received as much meat as they would eat; one hour afterwards they were etherised and the spleens, which were found to be in a state of contraction, were brought out through a wound in the abdomen and their hila were encircled by strong thread; in one of the animals the hilum was firmly tied, but in the other it was simply encircled and a knot was tied, leaving the splenic circulation perfectly free (this was done in the endeavour to equalise traumatic conditions as much as possible). The spleens were then replaced in the abdominal cavity and the wound was sutured. On recovering from the anæsthesia the animals did not appear to suffer. They were killed six hours later. Gastric digestion was found to be more advanced in the animal in which the splenic vessels were tied; the pancreas of both was cut up into small fragments and infused with 100 cubic centimetres of water for an hour at 35° C.; the liquid was afterwards decanted and returned to the warm chamber together with cubes of albumin. Result.—In seven hours the pancreatic infusion of the cat in which the hilum was not ligatured digested 17 grammes of albumin; that of the other did not digest at all even at the end of 12 hours.

This experiment was performed on a large number of cats and dogs and always gave the same result. In spite, however, of the perfection of gastric digestion in the operated animals, it was possible to lay at the door of traumatism the absence of duodenal digestion; to correct this the experiment was repeated as follows.

Extirpation of the spleen.—Two dogs, one normal, the other having undergone splenectomy a month previously but at the time of the experiment in perfect health, were operated upon, while fasting, as follows: etherisation, ligature of the pylorus, injection into the stomach per œsophagus laid bare and opened of 50 grammes of peptone and two grammes of dextrin; to allow drainage of swallowed saliva the œsophagus was ligatured below the opening. Both animals were killed five hours later and each pancreas was infused for three-quarters of an hour in 100 cubic centimetres of water at 35°C. Although death had occurred before the most favourable moment for the experiment—i.e., in advance of the summit of the splenic curve—the infusion coming from the dog with the spleen intact digested 17 grammes of albumin in 17 hours, while the other digested nothing even in 18 hours. Numerous experiments made in this manner always gave the same result. The spleenless dogs had in many cases undergone splenectomy several months before the experiment, and the determination in them of perfect conditions of health was always a matter of great care.

II. Experiments in the living duodenum.—Ligature of the duodenum at both ends.—Two dogs after fasting for 17 hours received as much meat as they would eat and immediately afterwards were operated upon as follows: etherisation, laparotomy, ligature of the pylorus and of the bile duct, introduction into the duodenum of from 30 to 40 grammes of albumin, and ligature of the jejunal end. In one of the animals the splenic hilum was also ligatured. Both were killed seven hours later. Result.—In the dog with the splenic hilum tied the albumin was found to be intact; it had, however, disappeared in the other.

This experiment was also several times repeated on animals which had undergone splenectomy a long time previously and always yielded the same result; it is, of course, capable of being combined with the preceding by making an infusion of the pancreas after the death of the animals. Such infusions give results in harmony with those furnished by the duodenum itself. Further, it will be remembered that in the pancreatic juice of dogs of large breed Schiff generally found, even while fasting, a certain quantity of trypsin; when the same were spleenless, however, he was unable to find any.

Digestion in the normal duodenum provided with a fistula.—A duodenal fistula was established in a dog. After complete recovery a measured and constant quantity of albumin was introduced every day into the duodenum enclosed in a small envelope of fibrous membrane fixed to the cannula by a thread some centimetres long. The progress of digestion was then observed, the following results being obtained. 1. When the animal was fasting the albumin took from five to six hours to become dissolved. 2. When the albumin was introduced into the duodenum during the two to three hours immediately following the ingestion of a meal by the animal it remained unchanged. 3. When introduced four hours after a meal it disappeared very quickly, in about half the time, in fact, occupied during fast. These facts having been duly noted the spleen was then extirpated and after complete recovery the same experiment was repeated; very different results were now obtained. Whether fasting or in full digestion the time taken for the digestion of the albumin was exactly the same—viz., from five to six hours. The acceleration in the peptonisation which had formerly appeared after the fourth hour of digestion and which coincided both with the appearance of trypsin in the pancreatic juice and with the dilatation of the spleen, was now absent. The slow digestion (from five to six hours) in this experiment was probably entirely due to the secretion of the duodenal glands which possess only a very feeble digestive power; the active, rapid digestion was due to the appearance in large quantity of trypsin in the pancreatic juice, a phenomenon wanting in the spleenless animal.

The researches of Schiff, of which the above are only a few typical examples, thus lead him forcibly to the belief that after extirpation of the spleen, or when the organ is prevented from dilating by ligature of its hilum, trypsin fails to appear in any considerable quantity in the pancreatic juice or in an infusion of the gland during that stage of digestion in which in the intact animal it is normally present. In other words, he was warranted in concluding that not only the presence of the spleen but also its congestion is necessary to the abundant formation of trypsin. The pancreas of an animal deprived of its spleen behaves always (even in full digestion) in the same manner as that of a normal animal in a state of fast. Several years later M. Herzen being then Schiff's assistant in his laboratory at Florence, the latter resolved again to repeat all his experiments on the influence of the spleen upon the production of trypsin. M. Herzen thus assisted in this repetition, glycerine (after the proposal of von Wittisch) being this time employed as the vehicle of the digestive infusions. In the years which followed M. Herzen himself many times repeated the experiments, sometimes making use of glycerine, sometimes of boric acid, his own vehicle. With certain rare exceptions, easily capable of explanation, they always yielded the same result.

Such were the facts and they formed evidence striking enough. The differences observed were so enormous as to exclude all possibility of doubt. Schiff endeavoured to interpret the facts by the following theory. During the congestion of the spleen a substance is produced within it which, carried away by the blood, gives to the pancreas the wherewithal to form its peptonising ferment.

The whole question was received by physiologists with complete scepticism. The experiments of Schiff, instead of being repeated, were opposed by arguments and objections purely theoretical, and finally, not only was his theory rejected, but also the facts which he had observed. Some attempts were indeed made to reproduce the fundamental fact, but they were carried out with a superficiality and ignorance of the necessary experimental conditions which reduced the value of their results to practically nothing.

In 1872, however, the theory of Schiff received a rude shock through the great discovery of the zymogens by Heidenhain and his pupils. From the researches of this observer it appeared that as the gastric mucous membrane forms at the outset hardly any active pepsin, but a zymogen accumulating in its glands in the intervals of digestion, so the pancreas does not at once elaborate active trypsin but a

substance destined to become trypsin under certain conditions and in a certain phase of the digestive act, this substance being, of course, the pancreatic zymogen trypsinogen or protrypsin. The researches of Heidenhain are well known and it suffices to recall here only one or more essential points; thus from them we know that the pancreas of a fasting dog contains little or no trypsin, but merely trypsinogen, consequently its glycerine infusion possesses little or no digestive power; the infusion, however, of a dog in full digestion digests rapidly and copiously because it contains trypsin. If the pancreas of a fasting dog be divided into two equal portions, one of which is infused at once and the other only after an exposure of 24 hours to the air, the first is found to be inactive while the other is immediately and energetically active, from which it is clear that the inert pepsinogen which it contains becomes spontaneously transformed into active trypsin; indeed, it suffices to pass a current of oxygen through a pancreatic infusion, rich in pepsinogen and poor in trypsin (an inactive infusion) to transform it into an infusion possessing a digestive power proportional to the amount of zymogen it originally contained. This transformation, then, is an oxidation, trypsin being oxidised trypsinogen.

The fact observed by Heidenhain of the continuous formation and storing up of trypsinogen in the pancreas and its subsequent transformation into trypsin during the culmen of gastric digestion proved that the former substance at any rate enjoyed an origin quite independent of all influence outside the pancreas itself, and the hypothesis of Schiff as to the intervention of the spleen seemed in consequence to be at fault. But it was only the theory of Schiff which suffered by these new revelations; as far as the experimental results of the two observers were concerned physiologists were face to face with two series of apparently contradictory acts—apparently because facts properly observed can never stand in contradiction with one another and when they appear to do so it is merely because the interpretation of them is either false or incomplete. It fell to the lot of M. Herzen to unravel the tangled hypotheses. It appeared to him that by modifying the hypothesis of Schiff as to the manner in which the spleen acts as a tryptogene, a fusion of the respective facts of Schiff and Heidenhain could be brought about, and that far from being antagonistic they could be shown to be reciprocally corroborative. He argued thus: since the zymogen, even in splenectomised animals, is being continuously elaborated, and therefore independently of the spleen and its periodical congestion, and that it accumulates in the gland cells during fast, but that it becomes rapidly and copiously transformed into trypsin only in the presence of the spleen and in direct proportion to its dilatation, it would seem feasible that the spleen produces by "internal secretion" during its congestion, an unknown substance, which, carried away by the circulating blood, transforms the inert zymogen already deposited in the pancreas, into active trypsin destined to pass into the secretion of the gland, and that the influence exercised upon the zymogen by this product of the spleen seemed to be a condition *sine quâ non* for the transformation of the former into trypsin, at least in the living pancreas, since in the dead organ or its infusion it is so transformed by direct oxidation. This hypothesis of Herzen would seem to be further confirmed by the fact gleaned from the researches of both Schiff and Heidenhain—to wit, that the holding in zymogen of the pancreas at a given moment either of fast or digestion is always in inverse ratio to its holding in trypsin and *vice versâ*, while the latter is always in direct proportion to the spleen dilatation.

So far so good. But Herzen reasoned further. If the spleen really produces during its congestion a substance which brings about the transformation of the pancreatic zymogen into trypsin it would then be possible to seize upon this substance in the spleen itself while in its turgescent condition (from six to seven hours after a meal) and by at once making an infusion of it and mixing a certain quantity of this splenic infusion with pancreatic infusion made from the pancreas of a fasting animal (very rich in zymogen and very poor in trypsin and consequently nearly inactive) there could be obtained *in vitro* a rapid and copious formation of trypsin easily recognisable by the amount of proteid digested in a given time. The control experiment would also be very simple, consisting merely in mixing with the same pancreatic infusion that of a contracted and anæmic spleen, in order to observe whether it would have the same effect as that of the spleen dilated and engorged with blood. Artificial digestions actually carried out with these infusions gave enormous differences; whereas the pancreatic infusion alone, or that mixed with infusion of contracted spleen digested nothing or almost nothing, the same pancreatic infusion to which had been added infusion of engorged spleen digested rapidly and copiously, indeed it had often completely digested its dose of proteid by the time that the other two, if digesting at all, had barely commenced. The mixed infusions thus behaved in the same way as a pancreatic infusion taken at the culmen of digestion.

A large number of similar experiments were made with aqueous, boric, and glycerine infusions, each being double—i.e., performed in two separate series of vessels, the one containing finely divided fibrin and the other equal-sized cubes of coagulated albumin. The results were always the same. Technical points gleaned from these experiments appear to have been that the watery splenic infusions work more energetically than others but have the disadvantage of not being able to be preserved for more than one or two days. Glycerine infusions can be preserved indefinitely, but even when diluted with water they retard the digestion to such an extent as to allow the spontaneous transformation of the zymogen into trypsin; boric infusions keep well and do not retard digestion, but even they also permit the slow spontaneous oxidation of the trypsinogen; this disadvantage is, however, compensated for by the rapidity with which they digest. Fibrin digests very much quicker than albumin and consequently its use better demonstrates the difference in the activity of liquids poor and rich in trypsin. In order to obtain very considerable differences rapidly—in from two to three hours—it is preferable to make use of fibrin, the boric infusion of pancreas, and the aqueous infusion of spleen. Further, in order that the various liquids for comparison shall contain the same amount of zymogen, Herzen adds to the pancreatic infusions which are to digest alone—i.e., without admixture of splenic infusion—the same volume of the vehicle with which was prepared the splenic infusions, added to the other portions. Finally to render all his experiments uniform and directly comparable Herzen always works with constant quantities of infusion and of albumin or fibrin (usually 10 cubic centimetres of infusion and 10 cubic centimetres of proteid). Below is given a typical example of such an experiment with results obtained in three instances.

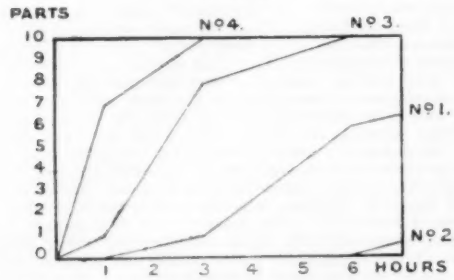
In a temperature of 40° C. are placed two sets of four vessels, a set for fibrin and albumin respectively; in them are placed the following liquids:—No. 1. Pancreatic infusion of a fasting animal diluted with twice its volume of sterilised distilled water. No. 2. The same diluted by the same volume of saturated solution of boric acid. No. 3. The same diluted by the same volume of boric infusion of spleen. No. 4. The same diluted by the same volume of aqueous infusion of spleen.

A B C

Photograph of specimens, now six years old, exhibited by M. Herzen at the Congress at Berne. The liquid is in each case the original glycerine infusion. Bottles A and C, showing undigested fibrin, are those containing the pancreatic infusions alone; B and D contain a mixture of both pancreatic and splenic infusions. The difference in digestion in the two cases is perfectly evident.

The following charts graphically illustrate the quality of the results obtained in the case of fibrin. The albumin digestions are omitted, since, being necessarily so slow, they show but imperfectly the influence of the splenic infusions in bringing about rapid and copious digestion quite independently of spontaneous transformation of the zymogen. For the same reason the time of observation is restricted to six hours. The numbering of the curves in these charts corresponds to that of the liquids in the account of the experiment.

CHART 1.

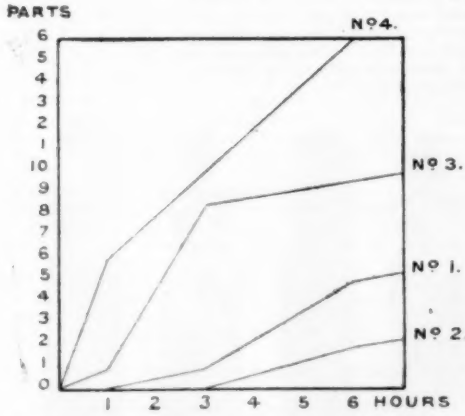


An ordinary digestion in which the fibrin to be digested is considered to be divided into 10 equal parts, the curves showing the number of such parts digested in the time-limits figured on the base line. Notice the immediate and copious digestion under the influence of the splenic infusions and that No. 2 is barely commencing to digest even after six hours.

In these experiments the enormous acceleration in the digestion of the fibrin under the influence of the two splenic infusions is very evident. As for the albumin it only digests in an appreciable manner when under this influence; the activity of No. 4 may give rise to the suspicion that it was due to the neutralisation of the boric pancreatic infusion by the aqueous splenic infusion. To this objection, however, No. 3 conveys a sufficient reply.

In many of Herzen's experiments the digestion performed by the mixture of the two infusions has been still

CHART 2.

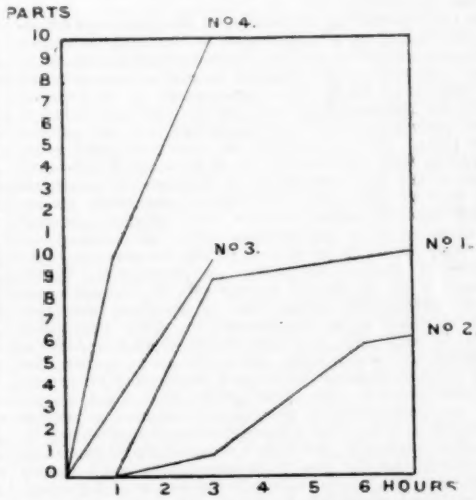


A digestion in which to the initial dose of 10 parts of fibrin a further 10 parts have been added, of which more than half have been digested by No. 4 at the end of six hours.

very much more rapid. He has, in fact, sometimes seen the initial dose of fibrin totally disappear at the end of the first hour. In these cases a second dose of fibrin added by him disappeared in its turn before the third hour. This activity in the digestion of the fibrin was also accompanied by a corresponding acceleration in that of the albumin. The latter, however, was rarely entirely dissolved even after 24 hours. This substance has therefore never given the enormous differences yielded by the fibrin which liquefies extremely rapidly in contact with trypsin. It would be difficult to obtain in a series of experiments a harmony more complete or a sequence more natural upon the researches of Schiff and Heidenhain. Herzen therefore believes himself justified in concluding that in the living pancreas the trypsinogen becomes transformed into active trypsin under the influence of a substance produced in the spleen, in a quantity proportional to the degree of its congestion.

At the German Congress of Medicine held at Strasburg in 1886 Herzen exhibited several graduated flasks containing the residua of fibrin and albumin in a number of his digestions, the digesting liquid having been decanted and replaced by alcohol. The physiologists who examined them all recognised that the differences between the residua left by the pancreatic infusions alone and those of the mixtures of the pancreatic and splenic infusions were very obvious. In a private conversation with Herzen, however, Heidenhain made the following criticism. It is well known that the pancreatic zymogen is very greedy of oxygen; on the other hand, the spleen

CHART 3.



An exceedingly active digestion in which the whole of the second dose of 10 parts of fibrin has been digested by No. 4 in three hours. Corresponding activity in unmixed infusions. No second dose was added to No. 3, the initial dose of which had been entirely dissolved at the end of three hours.

during its dilatation is engorged with blood. The splenic infusions exhibited were intensely coloured by dissolved hæmoglobin—*ergo*, the undoubted and considerable acceleration in digestion obtained by adding such a liquid to another containing trypsinogen could be quite simply explained by the rapid oxidation of the zymogen at the expense of the hæmoglobin. This objection disconcerted Herzen in no inconsiderable degree and he lost no time in making it the subject of experimental inquiry. He at length succeeded in disproving it by the following excellent experiment. The pancreas of a normal fasting dog was infused in pure glycerine and the infusion was divided into eight equal portions. These eight portions were mixed with eight samples of blood received directly into a double volume of glycerine, of which four came from a fasting dog and four from a dog in full digestion with the spleen greatly dilated. The four samples were taken in both animals from (1) the femoral artery, (2) the femoral vein, (3) the splenic artery, and (4) a large splenic vein. The eight portions were then given the usual dose of fibrin and placed at a temperature of 40° C. Now, it is evident that the femoral and splenic arterial blood of the two animals contained more oxygen than their venous blood; the former, then, according to Heidenhain, should exercise a powerful influence on the digestion, equal in the two dogs. On the other hand, according to Herzen, the splenic venous blood alone should exercise this influence and especially that of

the digesting animal. The result of the experiment was as follows. After one hour there was still no trace of digestion under the influence of the femoral blood, arterial or venous, nor of the splenic arterial blood of the fasting dog; first traces of digestion were beginning to manifest themselves under the influence of the splenic venous blood of this animal. Digestion was rather advanced in the case of the femoral arterial and venous blood and splenic arterial blood of the digesting dog; the fibrin had almost entirely disappeared under the influence of the splenic venous blood of the same animal.

The answer could not be clearer: the product of the internal secretion of the spleen, borne therefrom by the circulating blood, is present during the period of the dilatation of the spleen in feeble but appreciable quantity in the blood of the general circulation and abundantly in the splenic venous blood. The venous blood returning from the contracted spleen only contains it in very small quantities. This experiment, several times repeated, always gave the same result, showing that it is not the blood as such which favours the transformation of pancreatic zymogen into trypsin, but that, by picking up from the spleen the unknown substance possessing this property, the blood becomes its vehicle and means of communication with the pancreas.

At the International Congress of Physiologists, held at Berne in 1895, Herzen exhibited a second series of specimens preserved as an objective document of results arrived at by another method in which use was made of concentrated glycerine infusions. Under these conditions digestion is extremely slow even in the case of fibrin; even should the liquid already contain trypsin but little diminution of the fibrin can be observed after the lapse of several days, and at the same time an effective check is put upon the spontaneous transformation of the zymogen into trypsin. In the infusion of the pancreas alone the fibrin maintains indefinitely its original bulk; in the mixture of the two infusions it gradually dissolves and finishes at the end of three or four weeks by disappearing altogether. The specimens shown by Herzen at this Congress were already one year old. I have seen others in his laboratory at Lausanne which have been preserved for six years, forming, together with those originally exhibited at Strasburg, a striking object-lesson for those following his teaching.

From the bulk of evidence collected by Herzen there thus seems to be very little room for doubt that apart from hæmatopoietic, and possibly allied, functions possessed by the spleen, the organ furnished a product of "internal secretion" which causes in the pancreas the transformation of its inert zymogen into active trypsin.

I shall, in conclusion, briefly examine the criticisms to which the researches of Schiff and Herzen have been exposed. It is not proposed to consider objections purely speculative and theoretical, since, however plausible the arguments of such may appear, they cannot be brought into the same category with established facts; I shall therefore concern myself only with those having at least the semblance of being supported upon an experimental basis; and even in these cases it will be apparent with what lightness of heart the critics of Schiff and Herzen have undertaken their task—a lightness of heart only equalled by that of a large number of physiologists who have given these criticisms their support. Now the first rule required to be observed in endeavouring to test the results of a particular line of research consists in the exact reproduction of the original fact which it is sought to establish, a proceeding only rendered possible by the second observer reproducing accurately the experimental conditions under which the first laboured. Having done this the way is then open for him to repeat the several experiments, modifying them in what way he will in order to detect in them possible sources of error. This elementary rule appears to have been entirely overlooked by the opponents of Schiff and Herzen, as will readily be gathered from the following examples of their *modus operandi*.

In 1868 the Italian physiologist Lussana extirpated the spleen in three dogs and killed them later in order to ascertain whether the extract of their pancreas would digest coagulated albumin. One of his dogs suffered from a chronic peritonitis, another from an inflammatory condition of the pancreas. The pancreatic infusion from these two animals digested minimal quantities of albumin (maximum 0·25 gramme) in 24 hours. The third dog appears to have been healthy and its pancreas digested 1·10 grammes. The animal had, however, been killed three hours after a meal—i.e., at a moment when, even had it been in possession of its spleen, that organ would not yet have commenced to become congested. The experiment, therefore, gave the result which might be expected—viz., no digestion, for nobody would accept seriously the digestion of 1·10 grammes, knowing that the pancreas of a dog when digesting can dissolve from 50 to 60 grammes of albumin, for which, however, it is not only necessary that the spleen should be intact but also that it should be maximally congested, a phenomenon only commencing from six to seven hours after a meal. Nevertheless, Lussana concluded that in the absence of the spleen the pancreas digests just as well as when it is present, and that the diseased pancreas losing its peptonising property it was natural that Schiff had not found this property "*chez ses lapins dératés.*" It would seem evident that not only had Lussana never seen a true digestion by an active pancreas, but also that he had never read the work which he professed to criticise. This, however, did not prevent the majority of physiologists from blindly accepting his conclusions and declaring that the hypothesis of Schiff had been unable to withstand experimental proof, and in spite of the fact that Herzen, then Schiff's assistant, had immediately issued a severe analysis of Lussana's publication, to which, however, the latter never replied. For 10 years after Lussana's statement continued to be made, the name of Herzen being now coupled with that of Schiff, without the least attempt at experimental inquiry, Herzen published later an account of his own researches, the equally surprising results of which, obtained by an altogether new method, entirely confirmed those of Schiff.

In 1893 two French observers, Carvallo and Pachon, communicated to the Société de Biologie, and also published in the *Archives de Physiologie*, an account of some experiments said to be performed according to Herzen's method and of which the results were entirely negative. One would again be inclined to ask whether the authors had read the work which they undertook to criticise, for they, like Lussana, altogether neglected the conditions most essential to the experiment. Owing to too prolonged extraction they allowed a large part of the zymogen to become transformed into trypsin before even commencing their digestive experiments, and in the course of digestions equally prolonged the transformation of the remaining zymogen was also allowed to take place, so that in summing up their results they were unable to perceive any difference in the activity of their infusions. Herzen replied by drawing the attention of the authors to this double source of error which deprived their experiments of all value. Pachon, now professor of physiology at Bordeaux, fully comprehended the gravity of these errors and resolved to do now what might reasonably have been expected of him and his colleague in the first instance—conscientiously to repeat the experiments of Schiff and Herzen by conforming to their directions; the result was that Pachon confirmed all their results and, together with his new collaborator Gachet, was entirely won over to their point of view. Nay, they did more, they invented an entirely new experiment, at once original and ingenious, which consisted in realising *in vivo* what Herzen had hitherto only done *in vitro*. This experiment was as follows.

A dog, which a long time previously had undergone splenectomy, was anæsthetised and half its pancreas was removed and immediately infused; at the same time a normal dog, in the height of digestion, was killed and its congested spleen was infused in water and this infusion was injected into the venous system of the spleenless dog; from 15 to 20 minutes afterwards the remaining half of the pancreas of the latter dog was infused exactly like the first; of the two infusions when given fibrin or albumin, the second only digested rapidly and copiously.

It would be thought that after proof so absolute the doctrine thus established by six different methods, first by Schiff and Herzen and afterwards by Pachon and Gachet, would enjoy immunity from attacks so reckless as the preceding. Such, however, was not to be the case, for last year a Russian observer, Popelski, conducted a series of experiments in which he succeeded in combining the error of Lussana with those initially made by Pachon in conjunction with Carvallo. In both normal and splenectomised cats he collected the pancreatic juice by means of a cannula introduced into the duct of the gland, and was

unable to find any difference in digestive activity. As, however, his cats had been fasting since the day before, his experiments were made outside the digestive period during which the spleen, becoming congested, furnishes abundantly its product of internal secretion which transforms rapidly and copiously the zymogen into trypsin. The experiments, therefore, of this observer are totally devoid of all value and it is useless to enter into further details concerning them, only observing that even had their author taken careful note of the conditions under which occurred the fact he purposed to check, his experiments would still have been incapable of demonstrating the differential digestion, seeing that being conducted with albumin only they were necessarily very much too prolonged; the whole affair, in short, was carried out in such a manner that not only was the fundamental fact wanting but even had it been present its recognition would have been impossible. But Popelski also performed some analogous experiments on a dog with a permanent pancreatic fistula made according to the method of Pavloff. The pancreatic juice of this animal was several times collected and examined before and after splenectomy without any difference in activity being demonstrable; this result, however, elicits no surprise in view of the fact that in both instances the juice was always collected immediately after a meal—i.e., again to repeat it, in advance of that digestive period during which the spleen enters into function and the pancreas abounds in trypsin, so that, as well in this experiment as in that with his cats, Popelski was placed in that position in which the presence or absence of the spleen was a matter of perfect indifference—a fact, however, which does not deter him from declaring with perfect assurance and manifest self-satisfaction that the theory of Schiff, Herzen, Pachon, and Gachet is based upon defective methods and should be rejected. Popelski does not thus even seem to have perceived that it is no longer a question of theory but of facts—facts which if he wishes to control he must observe in those conditions under which they occur, and of which it is absurd to deny the existence because they do not occur outside these conditions; in fact, Popelski, to quote Herzen's own words, is in the position of the astronomer who, knowing that a solar eclipse will occur on a certain date, deliberately looks for its appearance on the day previously to that date.

Such is the blind and thoughtless nature, truly extraordinary, of the criticisms passed upon the work of those who by the patient and persevering work of long years have discovered, tested, confirmed, and definitely established the importance of the rôle played by the spleen in the production of trypsin. Those who have intimately studied their works remain firmly convinced of the validity of their results and believe that but few physiological facts are more irrefutably established.

It has been stated earlier in this article that the organism as a whole apparently suffers no disadvantage from removal of the spleen. What, however, in the light of Herzen's results is the actual loss suffered by such an organism? The answer is clear—almost complete cessation of proteid digestion by the pancreas, this function being in such cases almost entirely performed by the stomach. But the zymogen which the pancreas continues to elaborate, does it become entirely lost, or does it continue to serve some useful purpose in the organism? A possible reply to this question might be that the zymogen being excreted as such becomes gradually transformed into trypsin by oxidation or other agency along the intestinal tract. The possibility of this explanation seems to have been suggested to Schiff and Herzen by an observation accidentally made in cases of duodenal fistula, according to which it appeared that pieces of albumin enclosed in fibrous membrane introduced into the living duodenum of splenectomised animals would become more or less digested if the thread fixing the arrangement to the cannula happened to be made too long, thus allowing the bag and its contents to wander further along towards the jejunum. The experiments of Popelski seem also to be a strong hint in the same direction by showing that the pancreas even of fasting animals will very slowly digest more or less proteid. Why, however, in these cases does the general nutrition of the animal not appreciably suffer? Is the peptonising power of the stomach, coupled with such slight assistance as may be derived from the pancreas in the manner just mentioned, sufficient for the ordinary needs of the body? It is a well-known fact that most animals eat too much, thus involving a certain superfluity not only of material consumed but also of digestive activity in both the stomach and the pancreas. On the other hand, it has been noticed and even confirmed by Schiff that spleenless animals require more food than intact animals, a fact which could find its explanation not only in the loss of direct peptonising surface in the alimentary tract, but also in that the parapeptones normally going on to the duodenum to be converted into true peptone by the pancreatic juice, are, owing to the breakdown of the pancreas, no longer capable of being absorbed and assimilated by the organism. The stomach and pancreas, in as far as the digestion of proteids is concerned, would then appear not only to work in perfect unison with one another in the intact organism, but when through any cause whatever the one or the other is thrown out of action, its work is assumed and efficiently carried on by the survivor.

Lausanne.

SOME REMARKABLE CASES OF SARCOMA.[1]

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FOR many years surgeons have dwelt upon the sources of error and doubt which attend the diagnosis of sarcoma. The following case, one of suppuration in connexion with sarcoma, illustrates very forcibly the almost insuperable difficulties that may occur even when elaborate pains and care are taken and all modern methods of investigation are employed.

CASE 1.—In March, 1899, I saw, at a distance from London, with Dr. James Andrews of Hampstead, a man, aged about 40 years, who had lived hard but had never suffered from syphilis. A dubious tumour of large size had gradually developed towards the lower third of the left thigh. This formation had been noticed for about six months as beginning as a "thickening" about the lower third of the shaft of the femur. No cause was assigned for it. There was an obscure history of a blow on the part four years before. Iodides were given in full doses and strapping and mercurial ointment were employed without avail. Shortly before I was called in an exploratory incision had been made by a surgeon into the outer side of the swelling; nothing but blood escaped, and the diagnosis of sarcoma was arrived at. When I saw the patient late at night in company with several other medical men, he was somewhat relieved from the very significant circumstance that pus had escaped from the wound. Previously for several days he had been ill and delirious, with considerable fever. I found him to be a well-developed man, ill and feverish, with a dry tongue and all the signs of septic infection. The lower third of the left thigh was occupied by a large, somewhat fusiform, tumour of the size of a big pumpkin which had all the aspect of a soft sarcoma. But the skin over it was red, it was hot to the touch, and, moreover, it felt elastic and fluctuated in all directions with great distinctness. I at once mentioned my doubts as to whether the case was one of inflamed sarcoma or abscess and advised that another exploratory incision should be made, and that if the case turned out to be sarcoma amputation should not be performed in the present inflamed and septic state of the thigh. This was agreed upon and was carried out on the following morning. Dr. M. Parry-Jones of Alfreton gave an anæsthetic and Mr. H. G. P. Le Fanu of Derby and Dr. James Andrews were present and assisted. The previous incision was enlarged and my finger at once entered a large cavity. On withdrawing the finger a gush of pus took place, the amount of which was not measured, but it filled a bowl of considerable size. I made a counter opening on the inner side just above the knee and evacuated more pus. The shaft of the femur was bare of muscles for some four or five inches, but not denuded of periosteum. The patella and the capsule of the knee could be felt, the great abscess being evidently quite extra-articular but beneath the quadriceps tendon. The movements of the knee were free. The walls of the large cavity were thick and definite, but no trace of growth could be felt. Full-size tubes were inserted, and the cavity was well flushed out. I expected that this abscess must have depended upon necrosis of the femur, and the obscure

[1] A paper read before the Medical Society of London on Oct. 22nd, 1900.

history of an injury some four years before lent some colour to this supposition. I was unable to find necrosis, however, though I made a careful search towards the back of the lower end of the femur where dead bone is so generally found. I, however, dismissed the diagnosis of sarcoma, and expressed the opinion that the case was one of deeply-seated abscess round the femur and that the cause was obscure. I believed the case would do well. How erroneous this opinion proved subsequent events will show. A few days after the operation there was a return of fever and pain. This was due to some slight retention of discharge and it soon passed away. The tubes were washed out daily and gradually shortened by Dr. Parry-Jones who paid great attention to the case and gave me much aid concerning it. The discharge always remained scanty and the wounds were nearly closed about the middle of April. The patient all this time had lost his fever and had put on some flesh and he looked better than when I had opened his abscess. Indeed, the case had behaved quite consistently with the progress of a suppurative affection. About the middle of April Dr. Parry-Jones suspected that the case was not so simple, as a distinct mass had again begun to form, the swelling assuming much of its old aspect and the discharge being very scanty. A portion of tissue from one of the sinuses was examined and the microscopical report, as is occasionally the case, was favourable but sadly misleading. It stated definitely that there was vascular granulation tissue but no evidence of malignant disease. About this time I wrote and suggested that the discharge should be examined for actinomyces, but this had already been done. The patient came to town early in May when I examined him. The swelling was as large as ever. The wounds had practically healed. Very distinct fluctuation could be obtained on either side and the temperature was raised at nights. I expressed the opinion that the previous drainage had been insufficient and I thought the whole cavity should be laid open along the outer side, cutting through the vastus externus muscle. I expected to find much inflammatory material and a sequestrum. Before undertaking so extensive an operation I desired another opinion, and Mr. Frederick Treves saw the patient with Dr. James Andrews and myself early in May. He was at once struck with the resemblance of the case to one of actinomycosis, and suggested that the discharge should be carefully examined for the ray fungus. He suggested free opening and curetting with patient and prolonged flushing and subsequent gauze tamponade. I operated two days after, Dr. James Andrews and Dr. E. Collingwood Andrews kindly assisting. I incised through the former external opening, but to my great surprise and disappointment nothing but blood and glairy fluid escaped. On introducing the finger into the former abscess cavity nothing was felt but curious masses of growth in great number, rounded in contour, evidently pedunculated, and attached to the walls of the cavity. Some of these were quite polypoid, and without much trouble I enucleated one with the finger and brought it out of the wound. It was of the size of a large tomato, and was firm and flesh-like. On section it was seen to be succulent and slightly roseate in hue. The feeling of these masses to the finger was extremely peculiar and unlike anything I had ever previously experienced. The diagnosis of some serious form of new growth was then only too clear, and I abandoned the contemplated operation of free opening. My colleague, Dr. H. D. Rolleston, examined the tumour and the appearances of a mixed form of sarcoma of malignant aspect were very clear. The femur was quite free. The growth was obviously a huge cystic sarcoma in the soft parts of the thigh, and the explanation of the case was now clear. Septic infection had occurred from the primary incision, and the huge cavity had practically been converted into an abscess. The evacuation of so large a quantity of pus was exceedingly misleading, and explained a diagnostic error which, under the circumstances, was perhaps almost unavoidable and I believe would have been made by any surgeon. Amputation at or near the hip was now the sole resource. I did not urge it as the case in all respects was very unfavourable, and the fear of leaving infected flaps could not be laid aside. All further treatment was refused. The growth rapidly extended and the patient died from exhaustion in July, 1899. An early amputation, prior to any septic action in the thigh, might perhaps have saved him for a time. I have thought it right to publish this case because it carries with it much useful instruction. I believe that any surgeon who had seen it would have fallen into error and pronounced it undoubtedly inflammatory. I think it one of the most striking cases which I have ever seen and one which illustrates the extremes of caution with which we should deal with such cases from a prognostic and diagnostic point of view.

CASE 2.—The second case was one of ulceration of the toe, followed by melanosis of glands in the groin. Through the kindness of Dr. B. R. Martin of Hammersmith I saw in January, 1899, a man, aged 49 years. For about 12 months the fourth toe on the right foot had given him trouble. He attributed this to the fact that a corn had formed underneath it, and that he rubbed this with his boot. Anyhow, an obstinate ulcer formed on the plantar surface of the toe and refused to heal. On examination an oval ulcer with irregular margins was seen to occupy the under surface of the toe; it was deep and nearly exposed the tendon. The base was covered with pale granulations and the edges were "heaped up"; they were white and callous, exactly like the tissues of a "corn" which indeed I opined it to be. The toe was amputated, the wound healed in a few days, and the patient left my care much relieved in walking. In April he came and showed me an enlarged gland of about the size of a filbert in Scarpa's triangle. This had been noticed accidentally. The swelling was moveable and elastic, and at one spot the sensation of fluid was evident. I believed this swelling to be a suppurating gland; but the possibility of a new growth entered my mind, and I urged upon the patient the importance of having the lump at once explored by an incision. Unfortunately, this advice was declined. Other opinions were taken and the patient, largely swayed by the advice of irresponsible relations, allowed his case to take care of itself. I saw him from time to time, and fluctuation was so evident in the increasing swelling that the diagnosis of a chronic abscess seemed more and more certain. The thought of inserting an exploring syringe was not absent, but I feared to do this to a possible soft growth unless I had permission to proceed at once to operation. In May the swelling had increased to the size of a small orange, and had commenced to cause grievous pains down the course of the crural nerves. I now felt that there was ground for serious alarm, and I spoke very strongly to the patient regarding his grave condition. He entered the "pay wards" of Guy's Hospital and was operated upon by Mr. L. A. Dunn who kindly informed me that the swelling in his groin was a soft melanotic growth. This result much astonished me for I had looked at the toe very critically, and I feel sure, having seen several of these most deceptive cases, that any blue or black discolouration would have at once arrested my attention. I presumed that the extensive ulceration about the melanotic nodule in the toe had obliterated the usual local characters of the disease. I have lately heard that this patient, as usual, succumbed to a general dissemination of the disease.

CASE 3.—This was a case of sarcoma of the tibia simulating an abscess. A married woman, aged 41 years, had obscure pains in the right leg for about three months. The site of greatest severity was near the right knee on the inner side. She was a healthy-looking woman, all her bodily functions were well performed, and there was no evidence of syphilis. There was a diffused and hard swelling on the inner side of the tibia just below the knee. This was a little red, hot, and exquisitely tender. Indeed, the symptoms were those of a localised periostitis and osteitis of a somewhat acute nature. The patient was admitted into St. George's Hospital on July 29th, 1899, and was placed on large doses of iodides. The pains were not relieved, and by the middle of August there was a fluctuating swelling of the size of a pigeon's egg over the tibia. Indeed, the diagnosis of abscess probably associated with necrosis seemed very certain. On August 19th, the swelling was opened by the house-surgeon under the supposition that it was an abscess. I may relate exactly what occurred, as it more forcibly illustrates the extremely interesting lesson which this case teaches. Being present, I remarked: "Do not lay that open at once, but make a puncture into it to be sure of your diagnosis. Some of these swellings turn out to be soft sarcomata, and if you lay these freely open you will land yourself in disaster." He replied, "I do not think this is anything of the kind, but make the puncture." This was accordingly done with a fine knife, and instantly a jet of blood shot up to the height of several inches, slightly rising and falling with an ill-marked pulsation. The picture was one which no one who saw it could ever forget. I closed the puncture by a deep suture, put on pressure, and prepared the patient

on the next day for a possible amputation should this be needful. On the 24th Esmarch's apparatus was applied and I turned up a quadrilateral flap over the site of mischief. A soft sarcomatous growth of the size of a small orange was disclosed, and it came through the compact tissue of the tibia by a curiously circumscribed hole which looked as though made by a trephine. This was obviously only part of a much more serious complication of the interior of the bone, and I therefore amputated in the lower third of the thigh, the patient making a good recovery. Dr. W. S. Lazarus-Barlow kindly examined the specimen and reported that the growth was sarcomatous and of the nature of so-called myeloid disease and that it had originated in the medullary tissue of the tibia. A serious mistake was avoided in this case by a precaution which may well have seemed to be superfluous, and the timely establishment of the diagnosis may perhaps serve to re-establish the blemished reputation which the relation of the first case may have aroused in the minds of my audience!

CASE 4.—The last case I am about to relate is one of surpassing interest, especially to my medical *confrères*. In the year 1898, I saw a strong, robust-looking man, aged about 40 years. For six months he had been ailing, with vague pains about the back and the left side, and especially he complained of severe shooting pains down the left thigh and over the buttock. He had seen several physicians, as well as general practitioners of standing and sagacity. The consensus of opinion had been in favour of rheumatism, and he had gone abroad and taken "waters" without benefit. I have no doubt that diagnosis was really quite impossible at this early period of his case. On examining him I was struck with some enlarged veins over the left side of the abdominal wall, and on deep palpation a hard, irregular, and fixed mass could be felt under the left false ribs, close to the side of the spine. I watched the case for some weeks, though I was much pressed for an immediate opinion, and next it was noted that there was an irregular nocturnal rise of temperature, and I began to fear that the case was one of spinal disease with deep abscess. One day, however, the patient drew my attention to a swelling of the left testis, which he said he had suffered from since the onset of his symptoms. Moreover, the testis had gradually become larger. On examining the organ it was obviously the site of an enlargement affecting the body rather than the epididymis, and on carefully palpating the cord some masses could plainly be felt towards the inguinal region. Though no history of syphilis could be obtained the patient was placed on full doses of iodide of potassium, but though he continued the remedy for some weeks no result was obtained. The mass in the belly got more evident and could especially be felt posteriorly and the pain was worse. I now gave an opinion that the case was one of retro-peritoneal sarcoma, secondary to a testicular growth. This was afterwards verified by Sir William Broadbent and others. The case ran the usual progressively fatal course. A remarkable feature in it was the nocturnal rising of the temperature, which averaged 101° F. and sometimes rose to 102° or 103°. Towards the end of life severe attacks of phlebitis and thrombosis occurred in the femoral and iliac veins, giving rise to agonising pain and necessitating the free use of narcotics. No necropsy was allowed, but huge masses of growth were evident at the end of life, pressing the intestines forwards, obviously retro-peritoneal and secondary to the growth in the testis.

These four cases are related as forcibly illustrating the extraordinary problems which the different varieties of malignant disease may present. Mistakes are hardly to be avoided even with the extremes of caution. As errors of judgment are well said to teach us more than successes I venture to bring the subject before you because I am aware that similar instances have occurred in the practice of others and that the subject is one of unsurpassed interest and importance as well as of extreme difficulty.

Cavendish-place, W.

NOTIFICATION OF PHTHISIS.—At a meeting of the Bath Town Council held on Oct. 15th Dr. W. H. Symons, the medical officer of health, proposed that the system of voluntary notification of phthisis which had been adopted in Manchester, Sheffield, Brighton, Stockport, Blackburn, Stonehouse, Plymouth, Kendal, Norwich, and Carlisle should be adopted in Bath. After some discussion the matter was referred to a sub-committee.

THE ANÆMIA OF DYSPEPSIA CONSEQUENT ON DIRT-EATING.

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HITHERTO in the disease known as ankylostomiasis attention has been given principally, if not altogether, to the expulsion of the parasites from the intestines, merely because they have been regarded as the root of all the evils attendant on the disease. It is the object of this communication to point out that, far from being the chief object in view, it is but the beginning of a long course of treatment requiring great patience, careful dieting, and strict supervision. In necropsies on subjects of ankylostomiasis one has but to consider the great numbers of those worms occupying the upper intestines to realise how inconsistent is the theory which seems to be the general opinion of the profession as regards the causation of the disease. To me the idea of blood-sucking ankylostomata is entirely out of the question, and I have always wondered how the anæmia so produced has not more speedily put an end to the patient's life sooner than is usual with these cases, for be it said that it is a disease which comes on very gradually, symptom after symptom manifesting itself, until the combination of such symptoms ends the trouble, often after a considerable period from the onset. After two years' observation of these cases both in hospital and district practice I have had constantly in mind the consideration of the probable cause, other than the parasites, of this progressive and fatal disease as we have it in this colony. A great deal has been said and written about ankylostomiasis as a disease, more care and attention being specially directed toward removal of the parasites from the intestines. Of course, there can be nothing said against that inasmuch as they must be, and are, a great source of discomfort to their hosts, but the important question as to the etiology of the disease in itself is lost sight of or not at all taken into consideration, and notwithstanding the undoubted relief obtained by the administration of anthelmintics patients do not recover so readily as would be expected. Presuming that the ankylostomata as forming the chief agents in causing a disease productive of such profound anæmia and its consequences act merely by the local abstraction of blood there would, I think, be no doubt as to the treatment; but in considering the parasites only as a secondary factor, a mere coincident symptom as I believe them to be, it is plain that their expulsion, though absolutely necessary and affording considerable relief, does by no means bring about a perfect cure. The name "ankylostomiasis" is obvious in its meaning and the theory of ankylostomata sucking blood from the mucous membrane of the intestines is comparable to a considerable quantity of minute leeches continually draining the patient of his life's blood, a most horrible idea in itself and a state of things under which the patient's life could not be expected to last any time. Then, again, it is most probable that instead of the local abstraction of blood, as is supposed to be the case, the parasites may feed upon the soluble products of digestion which would otherwise have been absorbed and carried to the tissues. Of the two the latter supposition would seem to be more likely the case, but even then one could suppose sufficient soluble products to be absorbed to keep up the nutrition of the body and that by getting rid of the parasites health would result after a due allowance of time. The name "ankylostomiasis" would still be justifiable, the disease originating, as it then would, directly from the parasites; but I do not think anyone who has the opportunity of observing the disease as it occurs here and in other countries can have any reasonable doubt about its being a malnutrition and not merely an anæmia due to hæmorrhage. The dyspepsia I take to be the primary and most important cause of the so-called ankylostomiasis, though blood-sucking is so firmly believed in that it will be a matter of considerable difficulty to get anyone to give up the theory. According to various people it seems to be one and the same disease though known under different names. In this country the coolie labourers are by far the greatest sufferers, and not surprisingly so if only one considers their habits and manner of living. Their diet is very simple and meagre, they are for the most part vegetarians, but

whereas professing vegetarians have the advantages of milk and eggs, the coolies, except in hospitals where they are made to take these, would rather not have them at all. They are a people who are quite satisfied with their rice, peas, curry, and ghee, this latter being a specially-prepared butter in great use among the race. This frugal diet to men who are hard workers in the canefields under a scorching tropical sun cannot be conducive to robustness and good health. And when, in addition, there is a filthy habit of eating dirt, whether acquired as a vice or, which is most probable, for the purpose of economy, the result cannot be otherwise than disastrous. I have always connected the disease known as ankylostomiasis with the dirt-eating habit and with good reason, for I have frequently come across coolie patients with gravel hidden on their persons or actually caught them in the act of eating such dirt, and the craving is so strong that the coolie will cry and beg for the dirt which he so much cherishes. This is generally a soft slate-coloured or greyish stone which is very much in use among them or sometimes it is the actual dirt made into cakes and not unfrequently rags, paper, and coke are eaten. On this account there is a considerable loss of labour yearly. Owners of immigrants have been aroused to the fact that the disease is greatly on the increase and are much embarrassed by the large number of disabled coolies. The result arising from such a habit is obvious and the hospitals, both those of the districts and the estates, are crowded with sick coolies. The anæmia, which I take to be the direct outcome of such a prolonged and inveterate habit, is the cause of the greatest percentage of hospital patients, and though there must be no inconsiderable difficulty in effectually checking the habit, yet attempts might be made even to minimise this vastly increasing scourge.

There is no difficulty in recognising the advanced disease which to those accustomed to deal with it is diagnosed from merely looking at the patient. His appearance is characteristic, he is much swollen generally, his face is puffy and has a distressing look which seems to invite your attention to his hopeless condition, he walks into the surgery with slow and measured steps and shows you his legs which are swollen and tense with œdema, and he complains of pain in the whole body. There is a look of weariness and premature agedness about him which is marked; he has shortness of breath and is unable to speak but makes signs to indicate his distress. When asked to put out his tongue he opens his mouth, disclosing the organ lying in the floor of the mouth, and if urged to protrude it does so with great difficulty, purely from weakness. The tongue is shockingly anæmic, large, swollen, and flabby, and strongly marked by impressions of the teeth. The conjunctivæ are exsanguine; the patient complains of severe headache, dimness of sight, and not unfrequently diarrhœa and pains in the abdomen. The incipient disease, however, is not so easily recognised and some care is necessary to arrive at a correct conclusion. A patient will of course, never reveal that he is a dirt-eater and very strongly denies the fact, though if searched at the moment evidence might be found on his person of his doing so. He is young, mostly between 20 and 30 years of age, and to all appearances is in good health. He complains of pain in his legs and all over his skin, of shortness of breath on exertion, and pain in the pit of the stomach. There is no marked anæmia or any of those symptoms mentioned above; he is apt to be put down as a malingerer and treated accordingly, even sometimes prosecuted and imprisoned. The physical examination of his chest reveals nothing as a rule, with the exception perhaps of a slight hæmic bruit along the left edge of the sternum. There is one sign, however, which seems to be very constant among dirt-eaters, it matters not of what age, and that, one of the earliest indications of a malnutrition, is the condition of the skin. This, I believe, to be a great point in helping one to arrive at the true state of things in the early disease. If the skin of the face is pinched up between the index finger and thumb it is felt at once to be different from that of the healthy individual—it is thin, flabby, and lacking in firmness, and has somewhat the same feeling one experiences in pinching up the skin of an aged person; the atrophy and loss in tone are unmistakable. This is a sign which is noticeable even in young children who are addicted to the habit. It is a symptom which might be thought peculiar to wasting diseases generally, but whereas in other diseases there are sure to be other symptoms more or less advanced to account for the malnutrition, here it is the commencement of the trouble, and no other cause can be found or assigned to it. Such a patient is put on the thymol treatment, and very rightly too; then having got rid of his worms he is promptly put on an iron mixture, which is very wrong, so that no consideration is taken at all of the condition of the mucous membrane of his stomach. Often he is put on a diet which he is quite incapable of digesting, as is proved by the fact that one sees occasionally a whole meal passed in the stools almost unchanged. It is not to be supposed that a habit such as I describe, probably of many years' standing, can have had no ill-effect on the physiological function of such an important organ as the stomach. Digestion suffers and the blood and tissues starve accordingly. The symptoms of anæmia and malnutrition increase gradually, the patient gets into a condition of hydræmia, and so from bad to worse until he gets into a state well-nigh incurable and eventually dies from heart failure, mere poorness of the blood, or exhausting diarrhœa. Diarrhœa in such cases is a very bad sign and one which indicates that the end is not far off or, at all events, that recovery is hopeless. It is not produced, as is supposed, by irritation due to ankylostomata, but it is partly the safety-valve action of the mucous membrane in relieving a serum-soaked system and partly the result of irritation from indigestible and decomposed food-stuffs. Post-mortem examination shows extreme anæmia and degeneration of all the organs, with hydro-pericardium, hydro-thorax, and ascites; the stomach is always dilated, sometimes to a considerable extent—not the dilatation of obstructive pyloric disease but a uniform dilatation; its mucous membrane is atrophied. The intestines are atrophied and there may or may not be ankylostomata. All these signs seem to me to be brought about by a gradual process of starvation due to abuse of the powers of digestion prolonged for a considerable time. Taken in time the habit of dirt-eating or the introduction of dirt into the stomach in any other way and the consequent dyspepsia should form the main point to which we should direct our efforts. The practitioner must not, however, disregard the intestinal parasites because ridding the host of them is the first step of the treatment. Moreover, cases are not infrequent where all the symptoms of this form of anæmia are present and not even the most careful administration of thymol will bring away any worms. The presumption, therefore, is that there are none. I remember one such case in a boy of Spanish extraction who was a most inveterate dirt-eater and in whom I failed to find any worms. He improved considerably on very careful dieting while being watched very closely. He did very well and his formerly pasty complexion had just began to assume the colour of health when he left my care. A couple of months afterwards I saw him in the diarrhœa ward where he died with violent purging. What happened was that the watch kept on him was relaxed and he soon fell into his old habits again. At the post-mortem examination I failed to find any ankylostomata though I looked for them very carefully. Finally, I will mention the case of a man who is now under my care and who, though he has not got the habit of eating dirt, nevertheless follows a calling highly favourable to the ingestion of earthy matters into the alimentary canal. He is a labourer on a cocoa estate and as such has his hands more or less constantly encrusted with the soil six days out of the seven, and in the hurry of his work seldom thinks of washing his hands. It is the usual thing with such labourers and the dirt is thus taken into the stomach during meal time. In addition the man's food was very bad, consisting principally of salt fish which was certainly not of the best. He had thymol administered twice in the space of a fortnight and only on the first occasion were ankylostomata found and these were not many. He is a Spaniard, 24 years of age, under treatment for shortness of breath and swelling. He is very anæmic and swollen, his face is bloated, and the skin when pinched up is loose, flabby, and wanting in elasticity. The lungs are free, the heart area is normal, and a systolic bruit is heard. The urine is normal. The point of interest is that though his anæmia is fairly advanced there does not seem to be any remarkable quantity of the parasites in the intestines sufficient to produce the anæmia. There are many cases where ankylostomata are not to be found at all, notwithstanding the care taken both in the administration of thymol and the straining of the motions. Moreover, a patient may be chosen for experimental purposes who has not the least symptom of anæmia and thymol given in the ordinary way and ankylostomata demonstrated sometimes to a considerable extent. In such cases the parasites are taken in drinking-water and do not seem to affect their hosts in the least.

Carriacou, W.I.

THE DIFFERENTIAL DIAGNOSIS IN GENERAL PRACTICE OF PLAGUE AND TYPHOID FEVER.

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IT is evident that the early diagnosis and complete isolation of cases of plague are of supreme moment on account of their far-reaching results. As the Cardiff case as well as most of the Glasgow cases of plague have simulated an ill-defined type of typhoid or enteric—the term which I prefer to use—fever, I venture to submit the following note on these two diseases in the hope that it will enable the busy practitioner to arrive at an early and correct diagnosis of plague. I write from the point of view of a general practitioner, a portion of whose work is among people who from pecuniary considerations and ignorance expect you to make your diagnosis, no matter how difficult, on a first examination of a patient the dirt of whose skin may obscure any rash or mottling, and who may be lying in a room where sunlight seldom enters and where the artificial light is a paraffin lamp or a tallow candle. My remarks are based on the three Malloy cases, the first recognised Glasgow cases of plague, which were described in THE LANCET of Sept. 8th, 1900, and the case of Rosina M——, which was described in THE LANCET of Oct. 6th, 1900, p. 1040, as well as other Glasgow cases I have seen demonstrated by Dr. J. Brownlee in the wards of Belvidere Hospital. I am much indebted to the authoritative papers which I mention as references. I first discuss the symptoms and physical signs common to both diseases and then refer to a distinguishing feature of each disease.

Onset.—Three of my cases were ushered in suddenly with headache, nausea, vomiting, and general malaise. In one of them delirium set in at the onset and remained till his death seven days later, and in the fourth case there was a history of "raving" at the onset. In all forms of plague the two most common symptoms at the onset are headache and vomiting. In the cerebral type delirium and nervous symptoms predominate, while in the pneumonic form the most striking early symptom is a dyspnœa out of all proportion to the physical signs revealed on examination. The characteristic point of the onset in plague is that it is commonly sudden. In enteric fever the onset is, as a rule, insidious. The patient tells you that for a week, or perhaps a fortnight, he has been out of sorts. He has not been fit for his work and has no appetite. He has a dull pain in his head, is wakeful or dreamful at nights, and has a tired feeling, and a little cough. He is sure that he has a bad cold in his system which, if not speedily cured, will gradually lay him up. The whole history of the onset of enteric fever in an adult points to an insidious disease. It is only in children, or in adults whose vitality is too low to repel for any length of time the attack of the typhoid bacillus that we find a sudden onset. The extremely difficult cases would be a very mild case of enteric fever and a very mild case of plague. Fortunately in almost all the mild cases of plague buboes are present, and we can also call to our aid Widal's reaction to differentiate enteric fever.

Temperature.—When seen two days after the onset the temperature of one of my plague patients was 103° F., the temperature of another case three days after onset was 102°, the temperature in the third case also three days after onset was normal, while the temperature in the fourth case, which I saw for the first time 18 days after onset, was normal, but the medical man who was called in at the onset informed me that it was then 104°. As a rule, after the onset the temperature in plague goes up rapidly. In severe cases it reaches its maximum in 24 hours, but more often on the second or third day. The degree varies between 101° and 106°. The amount of the rise is no test of the severity of the case, for in the most fatal cases the temperature may not rise above 101°. One of my patients whose temperature was 102° when I saw her late in the afternoon had the same temperature on admission to the hospital on the following day at noon. The day following this her morning and evening temperatures were respectively 102° and 101·8°, while the next day they were respectively 102° and 100·4°. The temperature fell during the succeeding day from 101·4° to 98·6° and the patient expressed herself as feeling much better. Now the important point about her morning and evening temperatures is that they were the converse of what we should find in a case of enteric fever. The characteristic of the temperature in enteric fever is its remission, falling in the morning and rising in the evening. Let me here make some practical remarks on temperatures indicating fever in general practice. When I find a child with a temperature with no evident cause to account for it and I suspect the fever is due to an infectious disease, I take the mother into my confidence and enlist her aid in isolating my patient till I am able to confirm my suspicions or to reject them as groundless. For example, if I suspect measles or scarlet fever and the child sleeps with two or three other children I ask the mother to put him in a cot by himself or in any temporary bed she can improvise. A common practice is for the child to sleep with his parents till he is better. If the case is in a densely populated street and the people will only pay for one visit, and there is a doubt between scarlet fever, measles, and rötheln, I agree with Dr. Goodhart that the public and not the patient ought to have the benefit of the doubt, and I notify it as scarlet fever. If the patient is an adult and I suspect enteric fever I try to get him not only a bed but, if possible, a room to himself. In all ill-defined fevered conditions I order the mother or wife to buy a pennyworth of permanganate of potassium crystals and I tell her how to make with them gallons of disinfecting fluid, warning her to keep the crystals in a safe corner away from children. I then tell her to sponge the patient with this fluid and warm water night and morning and also to use it for washing the utensils that the patient uses. I always find that the bed to himself and the sponging are gratefully welcomed by the patient. In a suspected case of enteric fever I tell the wife or mother to note the appearance of the motions as soon as they are passed and then to pour disinfecting fluid over them at once and to lose no time in emptying them down the water-closet. In cases of suspected enteric fever also if the people are too poor or, as is more often the case, too penurious to pay for the two visits in one day I make it a point of seeing my patient one day in the morning and the next day in the evening for the sake of comparing the morning and evening temperatures. The common practical teaching is that any fever in this country and in all non-malarial regions which persists longer than seven days with no discoverable disease to account for the pyrexia is most probably enteric. As my old and ever kind teacher Sir W. T. Gairdner points out in THE LANCET of Oct. 13th, p. 1096, this does not mean that we are to wait for a whole week or perhaps a whole fortnight for the sole purpose of giving the disease a name and without attempting to isolate the patient or to notify the sanitary authorities. Why not at once—for our patient has probably been ill several days before we saw him—send the blood to be tested for Widal's reaction and if we get a negative result and there is still no evident disease to account for the pyrexia send another sample of blood? When I was called in to my first three cases of plague and I had a history of four apparently healthy individuals of the same household struck down within a day of each other with a disease characterised by fever I had no difficulty in pronouncing the disease infectious. As soon as I left that infected house I called on the medical man in attendance and he readily assented to my proposal that it was better for our patients, better for the neighbours and community at large, and better for our own professional reputations, to notify the sanitary authorities at once, although neither of us could give the disease a name. I notified them as probably ill-defined or doubtful cases of enteric fever requiring complete isolation and close observation for developments.

Respiratory symptoms.—On a physical examination of my patients I found in one nothing definite beyond congestive catarrh at the bases of both lungs. This was the natural sequence of cardiac failure, for the first sound of the heart was indistinct and he was extremely prostrate. He died on the third day after my examination. In another case there was a little bronchial catarrh and in the other two cases the chest was normal. The pneumonic form of plague is not only the most fatal form but the most difficult to diagnose, for "pain, tenderness, and enlargement of the lymphatic glands in the inguinal, femoral, axillary, and cervical regions, which are the most prominent external signs of bubonic plague, are absent." This is also the most infectious form, for the sputum is teeming with plague bacilli. One of the earliest and most striking symptoms is the dyspnœa

which is out of all proportion to any physical signs revealed on examination. There is great pain in the chest and this, unlike the chest pain of acute pneumonia, is not localised but general and occasionally referred to the abdomen. There are cough and expectoration, but the sputum, while generally scanty and streaked with bright red blood, has not the glairy, viscid, rusty character of the sputum of acute lobar pneumonia. Rhonchi and râles can be heard but dulness and tubular breathing are seldom present. The characteristic pulse-respiration ratio of acute pneumonia is absent, although there are hurried breathing and quick pulse. Now in enteric fever we only find in the early stage a slight degree of bronchitis or bronchial catarrh. If pneumonia sets in it is a complication in a later stage when the disease has become typical. It is also in this stage that we find basal catarrh due to hypostatic congestion of the lungs.

Nervous symptoms.—In the case of the patient who died the nervous symptoms were a marked feature from the onset. He had "raved" all the previous night before I saw him. He was so restless that he could not be kept in bed, so he was allowed to get up, when he staggered aimlessly from place to place about the room, muttering incoherently the most of the time. When I saw him he was dull, stupid, and apathetic, and could answer no questions. He was in a semi-comatose condition and very prostrate. Taking the case by itself with the mottling of the skin, as described in the Belvidere report, and no buboes being pointed out to him no man could distinguish it from a case of typhus fever. Another of my cases had a history of "raving" at the onset, while in the other two cases there were no pronounced nervous symptoms. The first case would be classed under the typhus form of plague, where the delirium, nervous prostration, muscular weakness, stupor, and coma are leading features of the disease. In enteric fever the nervous symptoms come on late in the disease, as a rule, when there is seldom any doubt in the diagnosis.

Diarrhœa.—In all febrile conditions the bowels are irregular and we find either constipation or diarrhœa. In two of my cases there was diarrhœa at the onset and in one of them it continued up till death. In the third case the bowels were normal and in the fourth case they were not noted at the onset. In the Glasgow cases diarrhœa was often present at the onset. It is stated that the general rule in plague is constipation unless in the intestinal form, when diarrhœa is present at the onset, and later blood, mucus, and epithelium appear in the stools. In regard to the appearance of the stools I was misled by a statement which was volunteered by a neighbour without any suggestion of mine. She said that the motions were like "pea-brae" (the word "brae" is the Scotch equivalent for soup) and that they had "an awful smell." I am afraid that she either meant that the stools were watery or she had heard of "pea-soup stools" and was too anxious to assist me in my diagnosis. In regard to the degree of offensiveness of stools I would place little reliance on the statements of patients or their attendants unless the attendant is a trained nurse. Now, in regard to enteric fever I agree with Dr. F. F. Caiger that "the fact cannot be too strongly emphasised that diarrhœa is by no means a necessary attendant of enteric fever." I have always found constipation to be present in ill-defined cases of enteric fever and they were ill-defined because there was no diarrhœa. At any rate, diarrhœa in enteric fever does not usually appear till the second week of the fever and when it does appear there is little doubt of the diagnosis.

Tenderness or pain in the right iliac region.—This was the most misleading of the three symptoms that favoured the view of the first three cases being probably enteric fever. It was no use trying to elicit it in two of the patients, for the one was semi-comatose and the other was a child. But the third patient, the mother of the other two, on palpating in the cæcal region, said that it was painful. I had no reason to extend my palpation along the right groin and if I had done so I would have discovered a large painful bubo to which she had directed the other medical man's attention and which he had ordered to be poulticed. The pain which I elicited was probably due to indirect pressure on this bubo or to an inflammatory condition of the deep iliac glands. Ever since that day—and I shall always continue to do so even in a woman—on palpating for cæcal tenderness I never fail to run my hand along the right groin.

Skin eruptions.—I found no rash or mottling of the skin in any of my four patients. One of them is described on admission to the hospital and after, I presume, a bath, which was much needed, as having a faint purplish mottling which was most marked across the lower part of the abdomen, the arms, and the buttocks. It resembled the mottling of typhus fever. There is no true skin rash in plague. There may be occasionally petechiæ or mottling but no distinct rash. As for the rose spots in enteric fever they are usually absent in ill-defined cases, and if they do appear it is never before the end of the first week when the case has become more or less typical.

The tongue.—In all febrile conditions for any length of time we find a tongue coated with white or yellow fur. The appearance of the tongue of my patient who died was the same as that of all patients in a low vital or typhoid condition. His mother's tongue was simply a febrile tongue and the appearance of the tongues of the other patients presented nothing specially striking. The typical tongue in plague is one "early coated with a creamy white fur except the tips and edges which are clean and red, later it is dry, covered with a yellowish or whitish-brown fur, the tips and edges remaining red and irritable." The appearance of the tongue in enteric fever varies from the ordinary febrile tongue to one glazed and morbidly red. I am afraid that the tongue, unless in association with other symptoms and signs, is of little practical value for differentiating the two diseases.

General aspect of the patient.—The aspect of the patient who died conveyed to my mind that of one in a very low or typhoid condition. The aspect of his mother was that of one who is very anxious to have some painful symptom relieved. Her one appeal to me was to do something to relieve her persistent vomiting. There was nothing strikingly peculiar about the aspect of the little boy and that of the young woman was again anxiety to relieve the painful buboes in each of her groins. It is one thing to study the aspects of a patient whom one is called in to relieve and another thing to study the aspect of a group of patients with the same disease lying quietly in the ward of a hospital. The characteristic physiognomy common to all forms of plague is—"In the early stage the countenance portrays anxiety and distress, later resignation and apathy, the eyes are red and congested, and the speech broken and hesitating and pronounced in a thick and husky tone like that of a drunken man." To the plague specialist the aspect would no doubt be a valuable sign, but it would be of little practical value unless in association with other signs to a man trying to diagnose his first case of plague—a disease which he has read about but never seen.

DISTINGUISHING FEATURES.

Buboes.—In the pneumonic and septicæmic forms of plague buboes are only found post mortem. It is therefore a blessing that "as a rule the first outbreak of plague in a community is bubonic in type, whatever it may become afterwards." In my cases the mother, according to the Belvidere report, noticed a painful swelling in her right groin, the day after the onset of the disease. The same report states that buboes were detected in the axillæ of the patient who died, as well as enlargement of the deep cervical chain of glands. The little boy was found to have a large submental gland of about the size of a marble. His mother was certain that it was not there prior to his illness. This gland, unless in association with cases of plague, no man would have called any other thing than a tuberculous gland as his symptoms were of the mildest nature. The glands in his axillæ, neck, and groin were palpable but not distinctly enlarged. The young woman when I saw her 18 days after the onset of her illness had very palpable painful buboes in each groin. They were noticed by herself on the third day of her illness and were thought by the medical man in attendance to be gonorrhœal. I have pointed out[1] two points of differentiation—(1) the temperature of 104°, and (2) the rare situation in woman for gonorrhœal buboes—between plague buboes and gonorrhœal buboes. The time of the appearance of the bubo varies. It may be the first sign of the disease but it commonly develops while the temperature is rising on the second or third day. Its appearance is rarely delayed till as late as the eighth day of the illness. Very often pain and tenderness are present before any enlargement of the gland can be made out but they are soon followed by a palpable tender swelling. In the commonest type there is a large mass of several enlarged glands blended together by the surrounding exudation, but it may be only one inflamed gland with little infiltration

[1] THE LANCET, Oct. 6th, 1900, p. 1040.

present in the cases most rapidly fatal. The most common glands affected are those in the groin. In almost half of the cases the inguinal or femoral glands, or both, are alone enlarged. The next common situation is the axilla and in order of frequency the cervical submaxillary and parotid glands. Enlargement of the supra-trochlear, iliac, and popliteal glands rarely occurs.

Widal's reaction.—This is an absolute positive test and almost an absolute negative test of enteric fever. Of 206 cases of enteric fever the blood serum gave the reaction in 201, and in 103 cases which were not enteric fever the reaction only occurred in one case and that in a case of typhus fever. The reaction can be rarely obtained before the sixth or seventh day of the attack and in some cases it ceases to react before the expiration of three months from the onset of the disease, while it can often be obtained for two years or more after recovery, but usually in a less degree of completeness.

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Glasgow.

A CASE OF COMPLETE COARCTATION OF THE ARCH OF THE AORTA; NECROPSY.

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A MAN, aged 29 years, delicate looking and somewhat ill-developed, was admitted into St. George's Hospital on March 30th under the care of Dr. H. D. Rolleston. The patient stated that he had had an attack of scarlet fever when he was a boy, but had never suffered from rheumatism or chorea. In February, 1898, he was laid up with a severe attack of influenza, since when he had suffered from pains in the chest and palpitation of the heart, and more recently from cough. In January, 1900, he had a second attack of influenza, after which his breath remained so short that he was quite disabled. While in the hospital his chief subjective symptoms were referable to the heart itself and to an engorged state of the lungs. The heart's action was tumultuous and forcible, the impulse was diffuse, and the dulness was greatly enlarged. On auscultation the chief abnormal signs were a faint systolic murmur over the whole præcordium, a ringing aortic second sound, and a diastolic murmur in the aortic area, traceable down the sternum and audible also in the back. Marked pulsation was observed in the subclavian arteries, in the neck, and in the temporals; and on one occasion Dr. T. R. Whipham, medical registrar, observed pulsation in the back, between the left scapula and the spine from the third to the seventh rib. The radial pulses were equal, large, locomotor and collapsing. With rest in bed and tonic treatment, including small doses of digitalis and strophanthus, considerable improvement took place; and on April 25th the man was sent to the convalescent hospital at Wimbledon, where he came under the care of Dr. Lee Dickinson. The improvement, however, was not long maintained; dropsy set in with persistent hæmoptysis, enormous enlargement of the liver, and a scanty, lithatic, and highly albuminous state of the urine. A full trial was now made of digitalis, but without the slightest restraining effect upon the progressive cardiac symptoms, and death occurred on June 1st.

Necropsy by Dr. W. J. FENTON.—At the post-mortem examination it was found that the aorta was at first moderately dilated, but at the origin of the innominate artery it became slightly contracted, the contraction increasing along the arch until, at the origin of the subclavian artery, the lumen barely admitted the terminal phalanx of the little finger. Immediately beyond this point the lumen of the aorta was suddenly diminished to the size of a goose-quill by a sharp ridge which corresponded to a groove on its under surface. Between this and the junction of the ductus arteriosus the aorta formed a globular dilatation of about the size of a small marble, and then became suddenly and completely obliterated, the appearance externally being as if a ligature were tied tightly round the vessel, and internally that of two hollow cones placed in contact at their apices. The walls of the first part of the aortic arch were thickened and showed a few patches of atheroma, and the point of obliteration was encircled by a ring of early degeneration. The rest of the thoracic and abdominal aorta was narrow and thin-walled, but otherwise healthy. The ductus arteriosus was completely obliterated and reduced to a fibrous cord half an inch long. At the apex of the cone-like upper extremity of the descending aorta was a shallow depression which just admitted the tip of a bristle and corresponded to the end of the duct. The aortic valve was incompetent to the water test, and was provided with two cusps only, an anterior and a posterior, which were stiff and thickened and devoid of lunulæ. The coronary arteries arose behind the anterior cusp. The innominate, left carotid, and subclavian arteries, together with the left vertebral, which arose directly from the arch between the left carotid and subclavian, were dilated and thickened.

It was not practicable to trace out the anastomotic circulation with any completeness, but this had evidently been carried out chiefly by the internal mammary and first four intercostal arteries, which were greatly enlarged, thickened, and tortuous.

The heart, together with the arch and five inches of the descending aorta, weighed 33 ounces. All the cavities were dilated and their walls hypertrophied, especially the left ventricle, where these changes were extreme. The mitral and tricuspid valves and the pulmonary artery and its valves offered nothing for comment. The foramen ovale was closed. There was a fibrous tag on the front of the heart and the pericardium over the right auricle was opaque and thickened. There were several apoplexies in the right lung, the liver was nutmegged, and the spleen and kidneys were cardiac.

Clinical remarks.—Coarctation of the aorta is sometimes entirely latent and may be compatible with an active life and even the attainment of extreme old age; but in the majority of cases, sooner or later, the labour of carrying on the anastomotic circulation proves too great for the heart, which undergoes hypertrophy and dilatation—often to an extreme degree. The average age at which death thus results is said to be 34 years. In a considerable minority of cases death comes by way of rupture of a saccular or dissecting aneurysm of some part of the aortic arch; and, apart from aneurysm, there appears to be a noteworthy liability to rupture of the aorta, and even of the heart itself.

As for clinical diagnosis, given a fair development of the anastomotic circulation and a sufficiently methodical examination of the patient before the essential lesion has been masked by secondary cardiac changes, there is no reason beyond the rarity of the affection why the diagnosis should not be achieved. Pulsation in the arteries of the head and neck is probably constantly excessive, while in the abdominal aorta it must be absent or much diminished. The femoral pulse, when it exists, is retarded beyond the radial. Sometimes there has been observed obtrusive enlargement and pulsation of the intercostal, scapular, mammary, epigastric, and other more or less superficial arteries; but there appears to be no absolutely fixed rule as to which vessels shall dilate, and even with complete coarctation the anastomotic arrangements may escape observation. In a clinical lecture on a presumed case of coarctation of the aorta, published in the *Medical Times and Gazette* of Oct. 17th, 1857, the late Dr. Walshe speaks of "heaving, expansile, forcible pulsation at two spots near the inferior angles of the scapulæ, with all the qualities of aneurysmal impulse," but in reality due to a dilated and knotty condition of the intercostal arteries, and in part of their posterior perforating branches. So strong, indeed was that impulse that the idea of aneurysm of the arch itself, extending backwards, suggested itself for a moment to his

mind. Something of the kind in a minor degree was observed in our case.

The greater part of Dr. Walshe's lecture, which is a delightful example of the logical method of clinical investigation, is occupied with the discussion of a special murmur upon which the diagnosis seemed to turn. This murmur, generated presumably by the passage of blood through a considerable but incomplete coarctation, was of slightly post-systolic rhythm, sawing quality, and very high pitch. Its maximum intensity was at the second right interspace, close to the sternum, and it was conveyed upwards on each side, downwards and backwards to both vertebral grooves, but more intensely to the right than the left, on a level especially of the spines of the scapulæ. Barié in an able and laborious monograph published in the *Revue de Médecine* for 1886 speaks of the murmur having its maximum intensity over the course of the descending aorta between the left scapula and the spine, at the level of the third and fourth upper dorsal vertebræ. But obviously such a murmur is not to be expected when the coarctation is complete, and in our case it was certainly absent.

With regard to treatment we will only remark upon the failure of digitalis in our case and upon the fact that the same thing has been observed before.

Pathological remarks.—From the scattered literature of the subject [1] comprising 105 cases, we gather that coarctation of the aorta is of great, and, in its complete form, of extreme rarity. Only some 14 cases of the latter have been recorded. The male sex is more liable than the female in the proportion of seven to two. The coarctation is invariably situated at or near the junction of the ductus arteriosus with the aorta; sometimes a little below, rarely above, and never more than a centimetre distant. The constriction is generally produced by a fold of the inner coats of the artery, the outer coat being continued over it; very rarely the aorta has been found reduced to a fibrous cord for the length of about a centimetre, or even absent altogether. Occasionally, as in our case, the constriction is double, when the intervening portion of the vessel is said to be invariably dilated. When the obstruction is incomplete the lumen may vary in size from that of a small probe to that of the index finger; when complete, the appearances are usually similar to those described in our case. The constriction may be either sudden or gradual; in the latter case the narrowing begins with the transverse arch, increasing as the ductus is approached, or it may begin at the origin of the aorta. Most frequently, however, the vessel behind the stricture is dilated or aneurysmal. In proportion to the degree of obstruction in the aorta the anastomotic circulation becomes over-developed, and the vessels chiefly concerned are thickened, dilated, and tortuous. These are the subclavian, the internal and external mammaries, the superior and inferior epigastrics, the intercostals and scapulars.

A full and illustrated description of the anastomoses will be found in Craigie's paper. In this connexion it is worth noting the marked contrast between the thickness and dilatation of the first part of the aorta and the thinness and diminished calibre of that succeeding the obstruction, the difference being probably explained by the lessened tension in the descending aorta, together with the conversion of a pulsating into a continuous stream, a point of some importance as bearing upon the diminution or extinction of the femoral pulse in these cases.

The changes found in the heart usually consist in dilatation and hypertrophy of one or both ventricles or of all the cavities. As a rule, aortic valvular disease exists, for the most part due to slow inflammatory changes induced by the abnormal strain to which the valve is subjected, and it is probable that the great weight of the heart in our case, as also in many others recorded in the literature of the subject, is due to compensatory changes induced by aortic incompetence rather than the direct result of the coarctation. In the great majority of cases the ductus arteriosus is closed and presents the usual appearances. Thickening or other evidence of inflammatory change in connexion with this structure is quite exceptional.

A point of great importance as bearing upon the pathogeny of aortic coarctation is the frequent association with it of valvular and arterial anomalies as well as congenital malformations in other parts of the body. The frequency of this association is given as no less than 37 per cent., and is possibly greater. Twelve chief associated malformations have been hitherto recorded: (1) patent ductus arteriosus; (2) transposition of the heart; (3) two aortic cusps; (4) patency of the undefended space; (5) absence of musculi papillares in the left ventricle; (6) hare-lip and cleft palate; (7) hypospadias; (8) deformity of the lower extremities; (9) two anterior communicating branches in the circle of Willis; (10) innominate and left carotid arteries arising from a common trunk; (11) triple division of the aorta at its origin; and (12) left carotid and subclavian arteries arising from a common trunk. To these must be added the irregular origin of the vertebral artery in our case.

From a study of the various theories we incline to the view that aortic coarctation arises shortly after birth from a congenital vice of development affecting that part of the aorta which lies between the origin of the subclavian artery and the junction of the ductus arteriosus, forming the so-called isthmus aortæ. This throughout fœtal life is narrower, and its walls thinner, than the rest of the aorta and plays an altogether subsidiary rôle, but develops rapidly after birth when called upon to take its share in the systemic circulation. The course of events resulting in the malformation appears to be as follows. The early post-natal changes in the circulatory system, including closure of the ductus arteriosus, take place in the usual manner, the congenital tendency making itself felt shortly afterwards in non-development of the isthmus aortæ, which, by retaining its fœtal narrowness, results in the enlargement of an anastomotic circulation. In some few cases retrogressive contraction of the isthmus takes place, amounting, it may be, to complete obliteration.

As already mentioned, the ductus is generally closed and the absence of evidence of inflammatory change in its neighbourhood, which by extension to the aorta might have produced coarctation, or of any direct connexion between the obstruction and patency or otherwise of the duct, seems to support the view that they are for the most part independent processes. In the few cases in which the duct remains open it seems probable that a degree of narrowness of the isthmus has existed in fœtal life sufficient to prevent its early closure; non-development of the isthmus then keeps it permanently open until a collateral circulation is established when the causes of patency cease to obtain, but the time for involution having passed the duct contracts, but remains pervious.

[1] Barié, Revue de Médecine, 1886; Ziemssen's Cyclopædia of Practice of Medicine; Brunner, Deutsche Medicinische Wochenschrift, 1898; Peacock, British and Foreign Medico-Chirurgical Review, 1860; E. Craigie, Medical and Surgical Review, 1841; Wilks, Transactions of the Pathological Society of London, vol. x.; and Walshe, Medical Times and Gazette, Oct. 17th, 1857.

A CASE OF SEPARATION OF THE EPIPHYSEAL HEAD OF THE FEMUR.

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INTRA-CAPSULAR fracture of the neck of the femur in young persons appears usually to be of the nature of a separation of an epiphysis. One of my colleagues at the City Orthopædic Hospital, Mr. John Poland,[1] has recorded a case in every respect similar to that which I now describe.

The patient was a well-grown girl, aged 15 years, who presented no evidence of rickets or other affection of the bones. Five months ago she fell down in the street and experienced such pain as to cause her to faint, and on regaining consciousness she found that she could not stand. She was seen by Dr. Rees who rightly diagnosed a fracture and had the patient removed on an ambulance to a hospital. On arrival in the casualty department she was examined, but the severity of the lesion was not, apparently, made out, since she was not admitted into the hospital but was told to rest and to rub the affected part with liniment. She did this for some time and then with some difficulty began to get about again. In February last the patient came to me at the City Orthopædic Hospital. She was very lame and she said that she felt much pain on taking a step with the right foot. On examination I found that the right limb was markedly everted. The

[1] Traumatic Separation of Epiphyses, p. 622.

right great trochanter was displaced upwards and approximated to the anterior superior spine. The limb was an inch shorter than its fellow, and the gluteal fold on the affected side was shortened and curved up at its outer end. These features are shown in Figs. 1 and 2. On the front of the right hip-joint there was a prominence which suggested an anterior dislocation of the head of the femur. Passive adduction of the affected limb was easily accomplished, but abduction and flexion were painful to the patient and were greatly limited in their range. There was no crepitus felt in carrying out these movements. A good radiograph was obtained which clearly showed a break in the neck of the femur. The outline of the shadow of the head and the upper part of the bone, traced from the radiograph, is shown in Fig. 3. I must confess that until I had studied the radiograph I was a little doubtful as to the exact nature of the lesion. Once the latter had been ascertained the proper course of treatment was clearly indicated: nothing but excision of the separated head of the femur could give the patient relief. Accordingly, I recommended her for admission and she was taken into the hospital under the care of Mr. John Poland whose permission I have to mention the further history of the case.

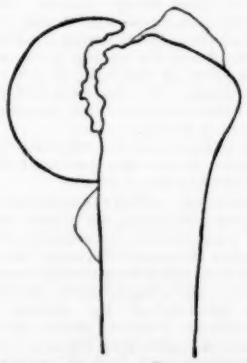
FIG. 1.

The appearance of the limbs seen from the front. The black tapes are placed respectively just below the anterior superior spines and just above the trochanters, and serve to show the elevation of the trochanter on the right side.

FIG. 2.

The limbs seen from behind; the gluteal fold curves upwards on the right side.

FIG. 3.



Outline of the shadow of the parts at the upper end of the femur traced from the radiograph and reduced to ½ scale.

At the operation the patient was anæsthetised by Mr. Henry Davis. It was observed that under anæsthesia there was some crepitus when the limb was moved. Mr. Poland, assisted by Mr. Chisholm Williams and myself, opened the joint from the front, the dissection passing externally to the rectus and iliacus muscles which were drawn inwards exposing the capsule of the joint. The capsule was then incised parallel with, and internal to,

FIG. 4.

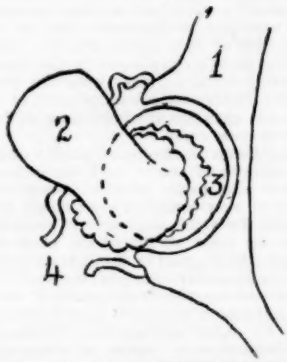
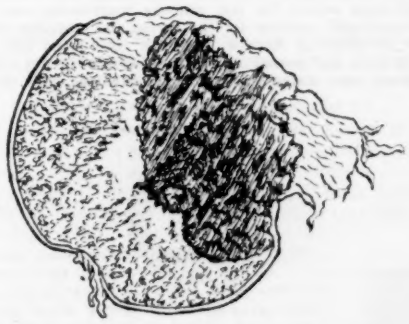


Diagram to show the relation of the fragments as in horizontal section. 1. Os innominatum with the acetabulum. 2. Neck of the femur with callus. 3. Head of the femur displaced backwards. 4. The anterior incision in the front of the capsule.

the ilio-femoral band. The fractured surface of the neck of the bone, thickened by an irregular formation of callus, was then seen, the head of the bone being entirely out of view and out of reach (See Fig. 4.) Mr. Poland removed much of the callus, which was readily detached, and finally sawed

off the prominent inner end of the neck. The fractured surface of the head of the femur was now seen and it was levered out with an osteotome, the ligamentum teres being ruptured in the process. The wound was then closed throughout save where a small drain of iodoform gauze moistened with a 1 in 20 solution of carbolic acid was laid in from the acetabulum to the middle of the suture-line. The parts removed consisted of the head of the femur (which was entire), the inner end of the neck, and separate fragments of granular callus. The head had remained connected with the neck by two portions of the cervical ligament, one at its postero-inferior aspect and another at its antero-inferior aspect. The ligamentum teres also was intact. By these connexions it had escaped necrosis, but there was no attempt at bony union, the callus having been formed entirely from the neck of the femur. The separation had taken place exactly in the plane of the epiphyseal cartilage, no trace of which remained. (See Fig. 5.) The fragment of the neck which was removed was somewhat sclerosed.

FIG. 5.



Vertical frontal section of the head of the femur after its removal. The sawn surface of the anterior fragment is drawn its natural size.

The absence of crepitus until the patient was anæsthetised and the existence of a certain amount of ligamentous connexion between the fragments may account for the severity of the case not having been recognised by the young men who were first responsible for its treatment. The assistance of the x rays in the diagnosis of the case was very real. The deformity present in this case recalled what is seen in some cases of coxa vara, and coxa vara may sometimes arise suddenly owing to a green-stick fracture of the neck of the femur in a rachitic subject. Although the patient in the present case had no definite signs of rickets there probably was some weakening of the bone from slight inflammatory (rachitic) changes in the juxta-epiphyseal tissue, predisposing the patient to the accident. I may add that the operation was in every way successful.

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NOTES ON

CASES OF INJURY BY LIGHTNING: ONE FATAL.

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ON July 27th, 1900, when acting as senior medical officer of Bulford Camp, Salisbury Plain, a terrific thunderstorm passed over the camp whereby one man was killed and 14 others were simultaneously prostrated by a single flash of lightning.

The fatal flash occurred at 1.15 P.M. I was at the time sitting at lunch close to the pole of the mess-tent, when my plate suddenly appeared to be filled with the electric fluid. I mechanically dropped my knife and fork, and as I did so an orderly hurriedly informed me that a private belonging to the 1st V.B. South Wales Borderers had been killed by lightning and that he had been removed to the regimental hospital tent to which I at once proceeded. Upon entering the tent I was impressed with the strong sulphurous smell that pervaded it. I found the patient lying on his back quite unconscious. His respiration was slow, deep, and interrupted, the pulse was slow and soft, the pupils were dilated, and the general appearance was that of an apoplectic seizure. Stimulants were administered and every effort was made by Surgeon-Lieutenant Hubert Williams and myself to rouse and to keep up the respiration and circulation, but the man died in about 10 minutes after admission.

Upon examining the body after death cadaveric rigidity was marked. (It has been asserted that rigor mortis does not occur in persons killed by lightning, but this case does not substantiate the fact.) The only appearances that presented themselves were slight scorchings on the right thigh and buttock. No post-mortem examination was made. At the inquest, which was held on the following day, I gave the cause of death as nervous shock and heart failure.

The stocks of several of the rifles in the deceased's tent were shattered and split by the electric fluid passing down them, but there were no marks of burning, only slight fusion of the metal in some of them.

The following are the notes by Lieutenant H. Hardy, R.A.M.C., of the nature of the injuries which were received by the men who were admitted to the stationary hospital:—

1. Private, 1st V.B. South Wales Borderers. There were numbness and coldness of both legs, and slight marking on the right leg.

2. Private, 3rd Gloucestershire Regiment. There were slight marking and scorching of the left leg.

3. Private, 4th Gloucestershire Regiment. There was scorching of the left hand and foot, with deafness.

4. Private, 3rd Gloucestershire Regiment. The patient was unable to move either of his legs or the left arm. There were scorching and typical marking on the left side.

5. Private, 3rd Gloucestershire Regiment. The patient was unable to move the right leg below the knee and he was marked and scorched down the left side and arm. His clothes and boots were torn.

6. Private, 3rd Gloucestershire Regiment. Both legs and the left arm were scorched. The right arm was scorched slightly.

7. Private, 3rd Gloucestershire Regiment. There were loss of movement and numbness in the left arm.

8. Private, 3rd Gloucestershire Regiment. The left foot was painful. There was marking on the buttock.

9. Private, 3rd Gloucestershire Regiment. Both legs and the right hand were scorched and numbed and there was scorching over the abdomen.

10. Corporal, 3rd Gloucestershire Regiment. The face and leg were scorched.

11. Private, 3rd Gloucestershire Regiment. There were numbness in both legs and tree-marking on the left breast.

12. Private, 3rd Gloucestershire Regiment. The patient's left leg and left hand and his first, second, and third fingers were numbed.

13. Private, 1st Royal Welsh Fusiliers. There was numbness of the leg but no markings were present.

14. Private, 1st V.B. South Wales Borderers. There were tingling and numbness in both legs.

In many of the cases the effect upon the nervous system was very marked. Several of the sufferers were very restless and moaned piteously and so impressed were they with the dread of impending death that great difficulty was experienced in assuring them that they would recover.

Crickhowell.

HEALTH OF GLOUCESTERSHIRE.—The report of the medical officer of health and sanitary committee of the Gloucestershire County Council for 1899 shows that 8802 births were registered (2363 in urban and 6439 in rural districts), giving a birth-rate of 23·6 per 1000 (against 29·3 for England and Wales). 5458 deaths occurred (1568 urban and 3890 rural), equal to 14·97 per 1000, as against 18·3 per 1000 for England and Wales. 1081 cases of scarlet fever were notified with 18 deaths; 361 cases of diphtheria, with 61 deaths; 163 cases of typhoid fever, with 34 deaths; and 21 cases of puerpural fever, with 12 deaths. Only one case of small pox was notified and the report adds that "the Vaccination Act is working successfully, the domiciliary visits and the use of sterilised calf-lymph seem to have disarmed the opposition of objectors and the neglect of the indifferent."

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WEST LONDON HOSPITAL.

A CASE OF GANGRENOUS FEMORAL HERNIA; ENTEROSTOMY; SUBSEQUENT ANASTOMOSIS BY HALSTED'S METHOD AND OCCLUSION OF THE GUT.

(Under the care of Mr. LEONARD A. BIDWELL.)

THE decision as to the treatment to be accorded to the intestine in gangrene after strangulation must rest finally on the general condition of the patient. The ultimate advantages of an immediate resection are so great and so obvious that this operation should be performed whenever the patient's general condition will admit of it. Before gangrene of the bowel in a hernia can occur the obstruction must have been somewhat prolonged and the patient will in all probability have been reduced by the vomiting to a condition almost of collapse. In such a subject any operation must be badly borne and therefore any operative procedure should be as rapid and as simple as possible. The resection of the affected portion of bowel, however skilfully and rapidly performed, may easily prove too much for the already exhausted patient and he may succumb though he might have survived the formation of a temporary artificial anus. There are, however, cases in which the depression already existing is less and in these the surgeon is justified in endeavouring to save his patient the inconvenience of an artificial anus and the danger of subsequent operations by the performance of an immediate resection. No strict rule can be laid down. Some patients will be so exhausted as to be unable to survive any operation however slight; others will have strength sufficient to permit the formation of an artificial anus but nothing more; while in other cases an immediate resection will prove successful. For the notes of the case we are indebted to Mr. H. G. Woodhill, house surgeon.

A married woman, aged 60 years, was admitted into the West London Hospital on June 4th, 1900. Six days before admission a left femoral hernia had come down and since that time the patient had passed neither fæces nor flatus; stercoraceous vomiting had occurred during the last two days. Taxis had been freely employed without any effect. On admission the pulse was rapid and the tongue was dry and furred. In the left femoral region there was a large swelling, the skin over which was tender, red, and œdematous. The patient was immediately given chloroform and under the direction of Mr. Bidwell, Mr. Woodhill made a vertical incision over the swelling and exposed the sac; this was opened and a quantity of offensive blood-stained fluid was evacuated. The contents of the sac were found to consist of a mass of gangrenous omentum and a knuckle of gut which was also quite gangrenous. The omentum was first ligatured as high up as possible and cut away. A fine silk suture was then run round the margin of the lower part of the sac so as to diminish its size, the redundant part of the sac was cut away, and the remainder was sutured to the lower part of the knuckle of intestine. Gimbernat's ligament was divided and an incision was made into the gangrenous gut; and as practically no fæces came away a small rubber drainage tube was passed into the intestine under Poupart's ligament; through this a great quantity of fluid fæces escaped. The patient recovered well from the operation and rapidly improved in her general condition, but as the whole of the motions were passed through the artificial anus a considerable amount of irritation was set up round the wound, and the patient, after much persuasion, consented to have a further operation performed.

On July 27th Mr. Bidwell opened the abdomen by an incision in the mid-line below the umbilicus; the dilated portions of ileum going to, and the contracted portion coming from, the hernial sac were isolated. These two portions were then held together and a lateral anastomosis was performed between them by Halsted's method at a point about two inches from the femoral ring. All the sutures having been passed openings about two and a half inches long were made into each portion of bowel, and the mucous membranes were united with a few points of suture. The anterior row of sero-muscular sutures were then tied, completing the anastomosis. The abdomen was closed, each layer of the abdominal tissues being sutured separately. The patient made a very good recovery and the amount of fæcal matter escaping from the artificial anus diminished. During the following four weeks attempts were made to stop the fæcal discharge by strapping and pressure, but as they were not successful Mr. Bidwell determined completely to exclude the artificial anus from the alimentary canal.

On August 13th the abdomen was reopened by a vertical incision in the left linea semilunaris and the two portions of intestine between the anastomosis and the artificial anus were clamped close to the anastomosis with rubber drainage tubing, and close to the artificial anus with clamp forceps, both pieces of gut were divided between the clamps, and the two ends, immediately below the anastomosis, were closed by a continuous suture for the mucous membranes and by interrupted quill sutures for the serous and muscular coats. A pair of dressing forceps was then introduced into the artificial anus and passed up the canal inside the gut till its ends were seen inside the abdomen; the free ends of the

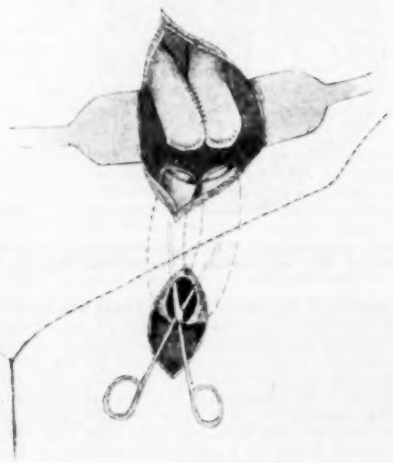


Diagram showing the lateral anastomoses and the method of drawing down the excluded knuckle of gut.

gut were then seized with these forceps and dragged down the canal and were fixed with a suture in the groin. (See figure.) The peritoneum round the internal femoral ring was then drawn together with a purse-string suture; in this way the femoral canal and its contained knuckle of gut were shut off from the peritoneal cavity. The abdominal wound was then closed by sutures layer by layer. About the fifth day after this operation a slough consisting of the excluded portion of ileum came away from the wound, which then quickly healed. The patient made a complete recovery and left the hospital on Sept. 5th.

Remarks by Mr. BIDWELL.—The treatment of this case raises the question of the propriety of immediate resection of gangrenous intestine as advocated by Kendal Franks and others. The coil of intestine was firmly adherent to the walls of the sac, and so it would have been impossible to pull down healthy gut into the wound in order to perform an end-to-end anastomosis; moreover, the sac was full of fœtid contents and would have certainly infected the general peritoneal cavity had any communication existed. The method which I advised—namely, the formation of a temporary artificial anus—involved far less risk. It is noticeable that no fæcal contents escaped until a drainage tube was passed inside the gut through the femoral canal, so this procedure should be employed. When the patient had recovered from the operation the question of performing an

end-to-end or a lateral anastomosis presented itself. I decided in favour of the latter procedure, as it could be done with the least risk of fouling the peritoneal cavity, and I believe that a lateral is a much safer procedure than an end-to-end anastomosis, especially if done by Halsted's method; in fact, I have never seen any fæcal extravasation or peritonitis to follow this method when I have employed it. The operation of occlusion of the two ends of the gut going to the fæcal fistula completed the cure. I have had to do this in another case of lateral anastomosis, also with a successful result.

With regard to the immediate resection of gangrenous gut followed by end-to-end anastomosis I have employed the method in two cases of femoral hernia both of which ended fatally. These, however, were cases of exceptional severity since in one case general peritonitis existed from rupture of the intestine above the stricture, and in the other the patient was practically moribund when placed on the table. I am therefore strongly inclined to recommend the formation of an artificial anus in cases of gangrenous hernia, with subsequent treatment of the fæcal fistula by a lateral anastomosis.

LIVERPOOL WORKHOUSE HOSPITAL.

A CASE OF PRESENTATION OF THE HEAD, CORD, AND FOOT; CONTRACTED PELVIS; CÆSAREAN SECTION; RECOVERY.

(Under the care of Dr. W. ALEXANDER.)

THE value of Cæsarean section is well shown in the following case. The mortality resulting from this operation has been found to vary greatly under different circumstances. The early figures compiled by Dr. Thomas Radford[1] gave 84 per cent. of maternal deaths. Since that time the record has much improved, so that comparatively late statistics give mortalities varying from 40 to 25 per cent. or even less. The much higher mortality after this operation which formerly obtained in towns as compared with country practice no longer exists, as it was due to septic complications which are now easily avoided. It is interesting to remember that at the end of the last century an "École Anti-Cæsarienne de Paris" endeavoured to get the operation declared illegal.[2] For the notes of the case we are indebted to Dr. Henry Peet, resident medical officer.

A married woman, aged 25 years, was admitted into the lying-in wards of the Liverpool Workhouse Hospital on the afternoon of May 22nd, 1900. She had been in labour for three days and was beginning to show signs of exhaustion. On examination the os was found to be fully dilated, the membranes had ruptured, and the liquor amnii had all drained away. The head was presenting with one foot beside it and the cord was prolapsed and pulseless. The bony pelvis was contracted in all diameters and the vagina also was very dry and contracted, so much so that it was impossible to introduce two fingers without great force and much pain to the patient. The pains were feeble and the patient was much exhausted and was crying out for delivery. Her previous history was as follows. She had been married two years and nine months. She had had a miscarriage four months after marriage. There had been no other confinement.

Chloroform was administered and a short attempt at turning the child was made. As this was found to be impossible it was decided to perform Cæsarean section at once, as some efforts at artificial delivery had been already tried outside. The operation was commenced as soon as the instruments could be got ready. The usual preparations for an abdominal section were made. The bladder and the rectum had previously been emptied. An incision five and a half inches long was made, commencing above at the umbilicus and extending down the middle line to within two inches of the pubes. The incision was carried down to the peritoneum, the bleeding points being secured with compression forceps. The peritoneum was opened and the incision was completed with scissors. The uterus was then pressed up out of the incision by an assistant, the uterine wall was opened in a line with the skin incision, and the child was seized by the knee and quickly extracted and given to an assistant. It was found to be dead, evidently for some time, and weighed eight and three-quarter pounds. The uterus was then pressed out of the abdominal wound by the assistant and the hæmorrhage was more or less controlled by firm pressure at its sides and neck. A subcutaneous injection of ergotin acted immediately and most effectually. The placenta, membranes, and clots were removed from the uterus, the uterine cavity was washed with a 1 in 1000 lotion of perchloride of mercury, and the walls were firmly pressed together, sponges being placed round the abdominal wound. Eight deep sutures of strong catgut were rapidly passed into the gaping uterine walls, the sutures entering about half an inch from the edge and passing close to the decidual surface. These were rapidly tied, the peritoneal edges being tucked in. The hæmorrhage which before the ergotin had threatened to be severe then practically ceased. The suturing of the uterus was completed by five superficial catgut sutures, including the opposed peritoneal surfaces, and the wound and the peritoneal surface of the uterus were then well washed with warm water. The parietal peritoneum was sutured with fine catgut and the abdominal wound was closed by eight perforating sutures of silkworm gut entering deeply into the muscular tissue. The whole operation occupied about 25 minutes.

The patient passed a fairly good night after the operation. For the next fortnight the temperature varied between normal and 100° and 101° F. This was owing to the formation of a stitch abscess which necessitated the removal of three stitches and slightly re-opening and fomenting the wound. In other respects the patient made an uninterrupted recovery and was discharged from the hospital on Sept. 13th. The accompanying illustration shows the presentation of the child.

Showing the presentation.

[1] Quoted in THE LANCET, May 19th, 1894, p. 1242.
[2] Brit. Med. Jour., vol. i., 1891, p. 1192.

WATER-SUPPLY OF KINGSBRIDGE.—At the meeting of the Kingsbridge (Devon) Urban District Council held on Oct. 16th it was decided to adopt a scheme for supplying the town with water from Capton Moor, Woodleigh, at an estimated cost of £10,000.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Wind Exposure and Phthisis.

A MEETING of this society was held on Oct. 23rd, Dr. F. W. PAVY, the President, being in the chair.

Dr. W. GORDON (Exeter) read a paper on Wind Exposure and Phthisis. He remarked that in view of the near prospect of the erection of sanatoria for phthisis in various parts of this country it might not be thought inopportune to discuss a subject which bore upon their choice of localities. The data upon which his paper was based were elicited when he was studying the distribution of the phthisis death-rate in Devonshire. After describing the methods which he had adopted he proceeded to consider the relation of the phthisis death-rate to the general death-rate, taking the latter as a guide to general conditions of sanitation. So far as could be judged the distribution of the phthisis death-rate in the rural sanitary districts of Devon was due to some other cause than that of general sanitation. The relation of the phthisis death-rate to the rainfall was next discussed, and it was shown that Tavistock with the highest death-rate had the most rain and Axminster with the lowest had the least rain; but other considerations went to show that instead of the rainfall causing phthisis the two must have a common cause, and this was probably the wind which brought the rain. Turning to the geology, it seemed evident that the soil alone would not account for the variation in the phthisis death-rate. As regards the relation of phthisis death-rate to wind Dr. Haviland had drawn attention to the fact that exposure to prevailing winds produced increase in phthisis mortality. Dr. Gordon next inquired into the degree of exposure of the different districts and found that Tavistock, which was more exposed to the west and south-west than any other district, showed the maximum phthisis mortality. The investigation of other districts led him to believe that on the whole it might probably be concluded that exposure to the west and south-west winds increased the mortality of phthisis. Dividing the different parishes of Devon into groups he found that the group of parishes where the dwellings were well sheltered from west and south-west winds had an annual phthisis death-rate of 0·24 per 1000. Parishes where dwellings were imperfectly sheltered from these winds presented an annual death-rate of 0·57 per 1000. Parishes where the dwellings were fully exposed to west or south-west winds or to both showed a death-rate of 1·34 per 1000. With regard to smaller areas, in Newton Abbot district the death-rate from phthisis in exposed parishes was more than half as much again as in sheltered parishes and imperfectly sheltered ones showed an intermediate mortality. Whatever influence was exerted by the soil it was subordinate to the influence of wind exposure. He did not think the difference in temperature, sunshine, or purity of air could account for the differences in phthisis death-rate, but unfortunately there were no means of scientifically measuring them. The conclusion at which he arrived was that certainly for the districts of St. Thomas's, Newton Abbot, Okehampton, and Barnstaple, and probably for Devonshire generally, the paramount influence which determined a higher or lower rate of phthisis mortality was the degree of exposure to, or shelter from, the west and south-west winds. The paper was illustrated by maps tinted diagrammatically.

Dr. WILLIAM CAYLEY remarked that he did not think they would be justified in concluding that the prevalence of south-west or any other violent winds was the sole cause of the higher death-rate in certain districts. Wider investigation would be necessary. Some years ago when visiting the Scilly Islands he was struck by the number of deaths from phthisis. The climate of these islands was very mild, but the winds were very violent. He noticed that the windows of the houses were very small and he suggested that the prevalence of phthisis was due to the inhabitants shutting themselves in at night and excluding all fresh air.

Surgeon-Major A. G. BLACK thought it would have been interesting if Dr. Gordon could have given the duration of some of the cases—e.g., were they longer in the north-west winds and shorter in the south-west winds? These winds undoubtedly introduced other causes which might themselves be the reasons of alterations in the death-rate noticed.

Dr. G. B. LONGSTAFF remarked on the laborious nature of such an investigation, but it should be remembered that they had to consider not only the conditions of the country around but the conditions of the dwellings of these people and their occupations. These circumstances had a very considerable influence on the phthisis death-rate, and without knowing these conditions they would not be justified in drawing conclusions as to the influence of winds and exposure as a cause of death. Lace-making was a very potent cause of the disease, and in some villages all the female population was so employed. Then there were the copper and tin mines at Tavistock. The question of the permeability of the soil was probably overshadowed by the immediate surroundings of a house or farmstead. The Devonshire people were notoriously dirty, especially in the way they kept their farmyards. The distribution of rainfall was an important factor, and differences of race ought to be considered. The question of diagnosis was also an important one when dealing with small figures, and especially when extending over a short period of time, as in this paper. He would have liked to have seen the tables from which the conclusions were drawn. They could then have seen the actual number of deaths on which the percentages were based. Another fallacy was the removal of cases to workhouses and other institutions; these sometimes affected the death-rate in a certain district in a very remarkable fashion. Was there any reason why the south-west winds should produce a higher phthisis death-rate? It might be by inducing "chills" or it might be that people shut themselves up at night in close bedrooms so as to exclude a violent wind.

Sir R. DOUGLAS POWELL thought that Dr. Gordon's investigations appeared to show that the death-rate was influenced by strong winds, but there were other factors than the prevailing wind which rendered a district unsuitable for phthisis. Dr. Haviland had shown some years ago that in the windy parts of England phthisis was more prevalent. It was not a question of the quarter from which the wind blew but the strength of the wind which was important. Moreover, he thought that this cause acted probably because it led the inhabitants to shut themselves up. He was very glad to have heard Dr. Longstaff's remarks, in which he concurred. It would be interesting to have similar observations from other parts of the country like those which Dr. Gordon had prepared.

Sir HERMANN WEBER remarked that the question of the influence of high winds on consumption was important, not only climatologically, but therapeutically. For purposes of sanatoria such observations were valuable. The "windiness" of a district rendered it unsuitable for a sanatorium. In his belief strong winds of any kind or from any quarter were injurious to consumption and increased the phthisis mortality; but the causes of phthisis were very numerous and it was very difficult to take one factor and examine that alone.

Mr. J. C. R. BRAINE-HARTNELL remarked that exposure to high winds was, in his belief, the most important condition in phthisis, far more important than rainfall. At Nordrach and other sanatoria there were abundant woods and other shelter all around where patients could walk. They were not allowed to expose themselves to high wind. He would like to know whether the south-west wind was more injurious than the north-east wind.

Dr. P. H. PYE-SMITH wished to recognise the labour of such investigations, but he thought it was difficult to get sufficient numbers of cases for trustworthy statistics. People ought not to speak of percentages unless there were at least 100 cases. Small areas constituted another source of fallacy, but this could probably be remedied on account of the widespread nature of phthisis. There were, he remarked, two sets of causal factors, one which led to the development of pulmonary tuberculosis, and another which hastened death after the patient had contracted the disease, and a different set of causes might be in operation for each of these.

Dr. W. P. HERRINGHAM remarked that three sets of observations could be made about a disease. One set of observations related to an individual case; another set consisted of observations on a series of cases; and a third set were those which related to the hygiene and surroundings of the cases. It was certainly advantageous for a person who knew the district well to make an inquiry such as this.

Sir WILLIAM BROADBENT questioned whether the facts revealed really connected the south-west wind with consumption. It was always difficult in diseases when the causes were so complex as those of consumption to differentiate a

single factor. He thought that severe cold was undoubtedly prejudicial, though perhaps it was caused by the patients shutting themselves up at night. In his belief it was the strength of the wind and not its direction which was detrimental.

Dr. GORDON, in reply, said that he did not wish to state that the south-west wind was detrimental in all parts of the world, but it certainly seemed to increase the phthisis death-rate in Devonshire. He thought it was quite possible that the evils of wind might be partly due to shutting up at night. He doubted whether occupation much affected his statistics. He believed that the chief reasons why the south-west and west winds were bad was because they were the most prevalent, the most violent, and the wettest winds in Devonshire, to which, of course, all his remarks were confined.

MEDICAL SOCIETY OF LONDON.

Some Remarkable Cases of Sarcoma.—The Occurrence of Arthritis in Association with Appendicitis.

A MEETING of this society was held on Oct. 22nd, Mr. JOHN H. MORGAN, the President, being in the chair.

Mr. A. MARMADUKE SHEILD read a paper on Some Remarkable Cases of Sarcoma revealing some of the sources of error which attend the diagnosis of that disease. The paper is published in full on page 1190 of this issue.—Mr. G. R. TURNER referred to some cases which he had published in the Transactions of the Clinical Society. One of these was a case of sarcoma of the thyroid gland pressing on the trachea and necessitating tracheotomy. The tumour subsequently disappeared entirely, although microscopical examination had shown it to be undoubted sarcoma. The patient remained healthy for six months and then the swelling again appeared. Removal was attempted unsuccessfully and after this the tumour again subsided. The patient ultimately died and the necropsy confirmed the sarcomatous nature of the growth, though at the time of death it had undergone considerable involution. The second case was one of multiple melanotic growths at the back of the neck which were removed, and although the patient remained under observation for some three years or more the growth never recurred. He was surprised to find what a number of cases—35 or more at the time he investigated the subject some years ago—were on record of undoubted sarcoma which had entirely disappeared. He referred to the great difficulty which might be experienced in the diagnosis between abscess and sarcoma and mentioned a case in point of alveolar sarcoma of the spine which had had all the features of abscess.—Surgeon-Major A. G. BLACK referred to a case of abscess of the breast which had been mistaken for sarcoma and also another case which was diagnosed as abscess which proved to be an encysted hæmatocele.—Dr. H. D. ROLLESTON referred to the capricious behaviour sometimes exhibited by melanotic growths. Though usually very malignant some of those arising on the skin were slow in their development. He referred to cases which he had seen in St. George's Hospital where melanotic growths remained local for some time and then spread slowly by the lymphatics. Some of the cutaneous melanotic cases were carcinomatous rather than sarcomatous.—Dr. CAMPBELL POPE referred to a case which he had seen some years ago of a man who presented all the symptoms of phthisis and subsequently abscess of the mediastinum. He one day brought up from the mouth a quantity of material which turned out to be of sarcomatous nature. This patient pursued an occupation which involved the inhalation of a good deal of dust.—Mr. H. F. WATERHOUSE referred to the case of a girl, aged 19 years, who went to the Charing-cross Hospital after an accident which resulted in fracture of the right humerus. The arm was put up in splints, but the bone was ununited at the end of four weeks. At the end of eight weeks, as there was still no union, an operation was performed and sarcoma was found to be deposited in the bone-ends. Amputation at the shoulder-joint was then performed. She had no return for eight years; then pleurisy developed on the opposite side which turned out to be of a sarcomatous nature and she shortly afterwards died from sarcoma of the left lung. He commented upon the length of time between the primary and secondary growths.—The PRESIDENT remarked on the advantages of reporting such cases. Nothing was more interesting than the growth and variety of sarcoma and it often caused much difficulty in diagnosis. The presence of suppuration was a most interesting point in Mr. Sheild's first case, for this was very unusual in sarcoma, though he remembered the case of a little boy in which this had occurred in the os calcis. He also referred to a case very closely resembling Mr. Sheild's second case, which commenced as an ulceration of the big toe, followed by melanotic enlargement of the glands in the groin. He doubted the advisability of always giving patients with tumours iodide of potassium as a matter of routine.—Mr. SHEILD, in reply, said his chief object had been to illustrate the difficulties of diagnosis rather than rarity in his cases. Of all situations tumours of the breast were, perhaps, most likely to lead to mistakes. He thought that the giving of iodide of potassium should never be allowed to impair patients' chances of recovery by operation. He would have liked to have heard remarks on the occurrence of a rise of temperature in cases of sarcoma. It was not generally known that this occurred, and it was specially liable to give rise to errors in diagnosis because there was a daily rise and the chart exactly resembled one of suppuration. He would also have liked to hear the views of other surgeons on the occurrence of thrombosis in these cases.

Dr. F. J. POYNTON read a paper on the Occurrence of Arthritis in Association with Appendicitis. He commenced by stating that the association of arthritis and appendicitis, though not common, was of interest because it seemed likely to throw light upon the etiology of perityphlitis. Some observers had suggested that rheumatic fever was an important cause of appendicitis and based that opinion upon (1) the associative occurrence of perityphlitis with acute rheumatism; (2) the occurrence of a polyarthritis resembling that of acute rheumatism coincident with, or shortly after, an attack of perityphlitis; (3) the favourable reaction of some cases of perityphlitis to treatment by salicylates; and (4) the similarity in structure of the tonsil and vermiform appendix which it was suggested implied a similarity in pathological tendencies. Dr. G. A. Sutherland, in the Edinburgh Hospital Reports for 1895, published examples of this association occurring in children. Dr. Poynton brought forward a somewhat similar case which occurred during an attack of rheumatic chorea, and alluded to the generally received opinion that abdominal pain was common in rheumatic children. He pointed out that all these cases were mild cases and lacked in his opinion absolute confirmation of the theory. Dr. Burney Yeo, in the *British Medical Journal*, June 16th, 1894, had published the case of a girl the subject of an acute rheumatic attack who some months before had developed another attack of arthritis, a fortnight after which a sharp attack of perityphlitis commenced. Rapid improvement was followed by a relapse and a fresh outbreak of arthritis. Complete recovery ensued without operation under salicylates. The pyrexia was high and very irregular. As to the value of the treatment of perityphlitis by salicylates many explanations were offered. Dr. A. Haig considered it to be an evidence of the gouty origin, others of a rheumatic origin, of appendicitis, while Dr. Beverley Robinson had been unable to convince himself that rheumatism and perityphlitis were causally associated. It might be justly inferred from the views expressed above that the success obtained by the treatment with salicylates was no proof of the rheumatic nature of the symptoms. Dr. Poynton thought that the evidence in support of the rheumatic origin of perityphlitis was not conclusive as yet. He had while registrar at St. Mary's Hospital investigated 60 cases of perityphlitis with the idea of gaining some more information upon the clinical side of the question. As his guide he had taken the manifestations of the rheumatic state as laid down by Dr. Cheadle in the Harveian Lectures for 1888. Every type of case was represented in this series, and in 31 the diagnosis had been verified by operation. In 11 there was a history of family or personal rheumatism, but in none of the cases could any causal relation between the two diseases be traced. In two of these cases there was polyarthritis. A good deal of light seemed to be thrown upon these difficult cases of polyarthritis by the papers of Piard upon metastatic suppurations in connexion with appendicitis and by the researches of Akerman upon the experimental production of osteomyelitis in young rabbits by injections of pure cultures of the bacillus coli. Piard in his papers had emphasised the point that metastases were especially liable to occur when the local lesion in the right iliac fossa was not well marked. Akerman had shown that intravenous inoculations of the bacillus coli into young rabbits would produce

osteomyelitis and also effusions into the neighbouring joints. These effusions were clear, turbid, or purulent, according to the local virulence of the process. Many observers had laid stress upon the importance of the bacillus coli in appendicitis and these organisms had been demonstrated in the metastatic abscesses. Dr. Poynton thought it was not surprising that the polyarthritis which sometimes complicated appendicitis should in the face of these observations closely resemble a rheumatic arthritis. The joint affections were multiple, might disappear during life, and might, as he had seen, react to treatment by the use of salicylates. Yet if death resulted a gangrenous appendix and visceral abscesses might be found, pointing indubitably to the metastatic origin of the arthritis. The severity of the joint lesions was probably dependent upon a local virulence at those sites. Death or recovery was probably dependent upon the virulence of the general poisoning. It seemed most probable that this polyarthritis was usually of the nature of a pyæmic rather than of a rheumatic lesion, and if this was the case it was an indication for immediate operation. Finally, allusion was made to cases of monarticular rheumatism of the right hip-joint in children, which for a while might closely simulate perityphlitis. The diagnosis was usually an easy one, for other rheumatic manifestations soon appeared in such cases as these, and the position was then clear. The active surgical measures that were now adopted for perityphlitis made the diagnosis of some importance. In conclusion, he was inclined to think that clinical evidence was, on the whole, against the explanation that appendicitis with polyarthritis was rheumatic, but upon this point he was anxious to obtain the opinions of the fellows of the society.—The PRESIDENT remarked that he thought that Dr. Poynton's view that the arthritis was of pyæmic and not of rheumatic origin was a correct one. He had seen cases which supported this opinion.—Dr. H. D. ROLLESTON had hoped that Dr. Poynton would advance bacteriological evidence in support of the rheumatic origin of appendicitis. Dr. J. Cavafy had long been in the habit of treating appendicitis with salicylates. He (Dr. Rolleston) thought that the structural analogy between the tonsil and the appendix supported the view that appendicitis might be of rheumatic origin. There seemed to be a prejudice against this view founded on the idea that operation might in consequence be neglected. He suggested that the initial stage of appendicitis might be rheumatic but the other forms of infection might be added later and introduce a septic element. Some cases of appendicitis certainly recovered under salicylates. He could not remember to have seen appendicitis during rheumatic fever, nor had he seen definite joint mischief in the course of appendicitis.—Mr. F. C. WALLIS expressed the opinion that arthritis might be due not only to appendicitis but to other lesions of the bowel as well. He had seen and recorded cases of ulceration of the lower bowel associated with painful condition of the joints accompanied by swelling and effusion which were entirely relieved by removing the portions of the diseased bowel. He thought that a good many of the unexplained joint cases might be due to septic matter absorbed from some ulcerating surface. He was inclined to question the rheumatic nature of appendicitis.—Dr. T. D. SAVILL mentioned the case of a man, aged 30 years, who had suffered from prolonged arthritis of many joints which would not yield to salicylates or other remedies. The patient died from perforated appendix and there seemed every reason to believe that the chronic joint mischief was of a pyæmic nature secondary to septic absorption from the appendix. He could not subscribe to the rheumatic origin of appendicitis.—Dr. H. A. CALEY referred to the scarcity of arthritic or other rheumatic manifestations in association with appendicitis, which he regarded as a strong argument against the existence of an intimate relationship between rheumatism and appendicitis. There seemed, however, to be a distinct bearing upon some cases of catarrhal colitis and rheumatic symptoms, and in this way—through the medium of the colitis—the rheumatic state might at times be concerned in the etiology of appendicitis.—Surgeon-Major A. G. BLACK thought that a connexion might be traced when an abscess round the appendix became absorbed into the femoral sheath.—Dr. POYNTON, in reply, said that he had no wish to dogmatise. Certainly Dr. G. A. Sutherland's cases were very instructive. The children were undoubtedly rheumatic and they had had appendicitis. The occurrence of arthritis in appendicitis was probably rare but this might be accounted for in the present day by the prompt surgical measures which were adopted. As regards Mr. Wallis's question, he could not say whether any of the cases he referred to had had colitis or not.

HARVEIAN SOCIETY OF LONDON.

The Advisability of Early Operation in Cases of Acute Inflammation of the Appendix.

A MEETING of this society was held on Oct. 18th, Dr. W. H. LAMB, the President, being in the chair.

Mr. C. W. MANSELL MOULLIN read a paper urging the Advisability of Early Operation in cases of Acute Inflammation of the Appendix. After giving a brief account of the pathology of inflammation of the appendix, showing that it always originated from invasion of the mucous membrane by septic organisms from the interior of the bowel, he divided the cases, so far as surgical treatment was concerned, into three main groups. The first, by far the largest, included all those mild attacks which subsided of themselves or under the simplest treatment. In these the organisms were destroyed or removed before they could do any permanent harm; the lymph, which had been poured out, disappeared again without leaving any adhesions, and the appendix regained its normal shape, size, and mobility. These cases needed no surgical treatment. In the second group were comprised all those cases in which the absorption of the exudation was incomplete. In some it became organised; in others it broke down into pus; in others, again, a concretion was left behind. But all agreed in this one particular—that perfect recovery did not take place and was impossible without operation. Finally, there was the third group, fortunately by far the smallest, in which acute septic peritonitis broke out and in which the only possible chance of recovery was immediate operation. In all acute attacks it was absolutely essential to group the case in one of these three divisions within 36 hours of the onset of the symptoms or it might be too late. It was known that the interior of the appendix was full of septic organisms; it was known that if the conditions were favourable to them they could penetrate the wall with ease and infect everything; and it was known that the appendix was hanging free in the peritoneal cavity. The danger was not in performing a simple exploratory operation but in delaying to do so. All that was necessary was an incision one and a half inches long and the introduction of the finger in order to ascertain exactly the condition of the appendix and the peritoneum around it. Mr. Mansell Moullin then discussed the symptoms by which the cases which would recover of themselves might be distinguished from those in which operation would be required, sooner or later, either because of diffuse septic peritonitis or because of the formation of adhesions, strictures, or concretions. The pulse was the most valuable of all. If the pulse rate at the end of 36 hours while the patient was lying in bed was over 100 in the minute, or if in the course of the last few hours it had increased much in frequency, there was no doubt that the attack was a severe one and that operation would be required. The temperature was no certain guide unless it continued to rise. The intensity of the pain was of great significance, and so were also, but perhaps in less degree, local tenderness, muscular resistance, and a sense of fulness in the right iliac fossa. Vomiting, constipation, and the other symptoms usually present could not be relied upon in the same measure. Mr. Mansell Moullin laid great stress upon the fact that the absence of any individual symptom was of no account and that operation should be performed in any case in which the pulse was very rapid, even if the other symptoms did not point to any great degree of severity. If morphia had been given this rule should be even more stringent. The limit of 36 hours, he admitted, was a perfectly arbitrary one. All could not wait so long. Some could wait longer without undue risk. Each case must be judged upon its merits and this must be regarded merely as an average. The point to bear in mind was that at the beginning of a severe attack they could not as yet distinguish cases which might be allowed to wait from those which might not; that they would all of them have to be operated upon at last, some for adhesions, some for abscesses, and some for concretions or other causes (for severe cases did not recover without leaving some complication behind) and that it was wiser

that a simple and practically safe operation should be performed at once upon all alike than that the disease should be allowed to run its course, and that those in whom diffuse septic peritonitis might supervene should be allowed to die in order to save the others from an operation which they would have to undergo later. It was merely adopting the general principle that when there was a grave possible danger ahead and there were no means of finding out the condition of things or of controlling the issue it was wisar to see how matters stood, provided it could be done without undue risk, than to trust to chance. But a preventive operation of this kind must be clearly distinguished from what were commonly called early operations—those performed upon the fourth or fifth days, which nearly always were too late and simply served to bring surgery into discredit.

Mr. RAYMOND JOHNSON was glad that Mr. Moullin had insisted upon the importance of a rapid pulse as an indication that an attack of appendicitis was a severe one. He entirely agreed with this view and had often noticed the serious importance of increasing rapidity of the pulse-rate in many acute abdominal conditions even when the other symptoms seemed to be favourable. He advocated early operation in the sense in which the term had been used by Mr. Moullin. He did not believe that in a case of acute appendicitis in which the inflammation was from the first localised by adhesions the risk of subsequent peritoneal infection was considerable. If performed early the operation would undoubtedly be done in a considerable number of cases in which a satisfactory result would have followed without it, but here and there it would save a life which would otherwise be lost. The practice could only be justified if in itself the operation involved no serious risk to life. It was strongly felt that the danger of the operation was very small indeed and that the risk of subsequent trouble from bulging of the scar was largely preventable if division of the muscular layers of the abdominal wall was avoided, the muscle fibres being merely separated. Mr. Johnson would hardly have anticipated that altogether reliable evidence as to the condition of the appendix could have been obtained by the introduction of the finger through the very small opening used by Mr. Moullin, and he would have feared the risk of disturbing the adhesions around a small collection of pus. For these reasons it was thought that a more free exploratory incision was advisable.

Dr. F. W. COCK, Dr. S. H. BELFRAGE, and Dr. E. CAUTLEY also took part in the discussion.

OPHTHALMOLOGICAL SOCIETY.

Cases of Blindness from Gunshot Injury of the Orbit.—Orthoptic Treatment of Convergent Squint in Young Children.—Cysticercus of the Eye.—Exhibition of Cases.

AN ordinary meeting of this society was held on Oct. 18th, Mr. G. ANDERSON CRITCHETT, the President, being in the chair.

Mr. E. NETTLESHIP read a paper on Blindness from Bullet-wound of the Orbit in which he gave details of six cases in which the sight of one eye, or sometimes of both eyes, was lost or injured by the passage of a bullet through the orbit without wounding the eyeball. These had been written of as "indirect gunshot injuries of the eye" in which the passage of a bullet through some part of the orbit was followed immediately by free bleeding into the vitreous, and as this cleared up by various and mixed appearances of choroidal rupture, choroido-retinal exudation, and changes at the disc without shrinking of the eyeball or any sign that the globe had been ruptured. The question as to how these injuries were produced was answered by the description of a case in which the eye was excised by Cohn and examined by Waldeyer in 1871. Cohn concluded that a contusion which directly affected only the outer surface of the sclerotic might set up severe and extensive plastic inflammation in the subjacent retina and vitreous. Mr. Nettleship mentioned other cases by Cohn, as well as one shown before the society last year by Dr. F. Menteith Ogilvie. He then described his cases in detail. The feature of interest in them was the extensive damage of the choroid and retina without wound of the eyeball. These indirect injuries were to be explained by the force of the projectile being changed into radiating vibrations of the tissue particles, acting as Professor W. F. Stevenson of Netley says—"as secondary missiles." These, passing through the dense sclerotic without damaging it, seriously injure the less resisting choroid and retina, whilst the bullet dragging on the muscular insertions might also contribute towards the injury. Mr. Nettleship mentioned some interesting experiments by Cohn and Stevenson, which had also been verified by himself, in which they had fired bullets at cylindrical metal vessels, some containing air only and others water, in both cases with no lid on the top. He showed photographs and the actual cylinders from his own experiments. In the former cases the bullet went through without producing much effect on the surrounding parts, but in the latter, which contained water, the vibrations set up in the fluid had produced very marked changes around the holes the bullets made. In this way the spinal cord might be injured by vibrations passing through the bone without fracturing it. He then compared the results of bullet-wounds with those of optico-ciliary neurotomy and also with the experimental evicence produced by Poncet, who in healthy rabbits cut the optic nerves and the posterior ciliary nerves. This latter caused from the eighth day onwards degeneration of the nerve elements of the retina, with increase of its fibrous structures, marked papillitis, and some inflammation on the outer surface of the vitreous; later the choroid, near the disc, became atrophied, and finally the degenerated retina became pigmented. In all these cases there was a great tendency for the retina and choroid to become united by inflammation, and this explained the slight tendency there was to detachment. In most of these gunshot cases other cranial nerves were involved and the commonest paralytic sign was ptosis.—Other cases were mentioned by Mr. DONALD GUNN, Mr. G. HARTRIDGE, Dr. R. GRUBER, Mr. TREACHER COLLINS (who had had two), Dr. S. JOHNSON TAYLOR, and the PRESIDENT.

Mr. C. WORTH described the Orthoptic Treatment of Convergent Squint in Young Children and said that he commonly commenced treatment as follows. The refraction was corrected and glasses were worn constantly. In nearly 30 per cent. of constant monolateral squint this treatment sufficed to render the eyes "straight," and in some of them binocular vision was obtained and the case was cured. In the 70 per cent. which were not cured by glasses operative treatment was postponed until the age of from seven to eight years, but only a small proportion of these obtained binocular vision, the time having gone by when this might have been developed. There were three chief difficulties to be overcome in carrying out orthoptic treatment in young children: (1) the child would only submit to treatment so long as he found it interesting; (2) the suppression of the vision of the squinting eye; and (3) the angle of the squint was usually so great that an ordinary stereoscope could not be used even if there were no suppression. This difficulty was overcome by an instrument invented by Mr. Worth by which the stereoscope could be adapted to suit a squint of any angle or direction and so stereoscopic vision was possible. (The instrument was shown and carefully described.) He found that those who saw binocularly naturally arranged themselves into three distinct classes according to the degree in which they possessed this faculty, thus—first grade, simultaneous macular perception; second grade, true fusion with some amplitude; and third grade, sense of perspective. Mr. Worth then described the treatment, but before commencing it the visual acuity of the child's squinting eye was obtained. The instrument was then adapted to suit the angle and direction of the squint and a cage, for instance, was shown before the fixing eye and a bird before the squinting eye. The child then saw only the cage with the fixing eye. The illumination of this was gradually diminished while that of the bird was increased until the bird was seen. Should the cage then have disappeared the illumination was modified until the bird was seen in the cage. Many other devices were used until the child learned to blend the two images, and so they got Grade I. After a time the angle of the instrument might be altered slightly without destroying the picture; the eyes followed the object and maintained fusion, and so Grade II. was produced. Exercises were then continued until the third grade of binocular vision was produced. Next, the illumination of the object slides was gradually equalised and then an attempt was made to separate the mirrors more and more while the visual axes followed the deviation of the objects. Mr. Worth had found that this treatment in some hundreds of cases caused a disappearance of the squint and the acquisition of the highest grade of binocular vision. In

other cases, though patients had Grade III. while looking into the instrument, the squint did not disappear. An occasional visit with exercises was sufficient to preserve the fusion faculty until the child had arrived at an appropriate age for operation. The desire for fusion then overcame any slight defect which might remain and a perfect cure resulted. The special points of this instrument were: (1) its adaptability to any form or degree of squint, including those cases in which the globe was rotated about an antero-posterior axis; (2) suppression of vision of squinting eyes was gradually overcome by unequal illumination; and (3) the variety of devices shown in the instrument interested and amused the child, so that he would readily give all the help he could at a most important point.

Mr. NETTLESHIP related a case of Cysticercus in the Eye which had come under the care of Dr. David Wood of Cape Town. The patient was a cook first seen by Dr. Wood on April 6th, 1900, after spending some time on the Modder River. On dilating the pupil he saw some choroidal changes and on the outer side a large round greyish body. On May 2nd he saw the living cysticercus moving its suckers and the crown of hooklets was also visible; the vision was failing. In June the vision was worse and by July 15th it amounted to light perception only, and this was due to the fact that the retina was becoming detached. The cyst was then loose in the eyeball, but no details of the head were visible. On arrival in England in August Mr. Nettleship saw the patient. There was then a large cyst seen at the upper part of the vitreous covered with fine white calcareous bodies. A dense white patch was seen in one part which frequently gave a heaving movement. On Sept. 7th movements were still visible. The eye being blind the question of operation was not entertained. The patient had now gone back to South Africa and this was the last note up to the present time. The man had first noticed some affection of the eye in November last.—Mr. W. LANG expressed surprise that in the early stage, when it was (he thought) sub-retinal, no operation was undertaken. He cited an instance in which successful extraction of a cysticercus from near the macula was performed by Alfred Graefe.—Mr. NETTLESHIP, however, stated that he gathered from Dr. Wood's notes that it was in the vitreous when he first saw it.—Dr. D. LITTLE said that he had seen five or six cases of cysticercus in the vitreous and in appearance they resembled that described by Dr. Wood. If left to themselves the eye became blinded by slow but progressive choroido-retinitis. In two he tried to extract the cyst, but this was not successful, and in both the eyes became worse and had to be excised a few months later. Some had been successfully removed, but his own experience led him to look upon the prognosis as extremely bad, no matter whether an operation were attempted or not.

The following cases were shown:—

Mr. H. WORK DODD: Voluntary Bilateral Nystagmus.

Mr. E. K. CAMPBELL: Double Cataract after Typhoid Fever.

Mr. H. B. GRIMSDALE: Double Congenital Lacrymal Fistula.

Mr. W. LANG: Rupture of Nerve Fibres at the Optic Papilla

Dr. F. W. EDRIDGE-GREEN: A case of Trichromic Colour Blindness.

Mr. JOHN GRIFFITH: Symmetrical Exostoses in the Neighbourhood of the Lacrymal Sac.

Mr. TREACHER COLLINS and Dr. J. S. HINNELL: Diminished Tension and the Appearance of Optic Neuritis persisting for nine months after a Wound of the Orbit from a shot from an Air-gun.

Mr. J. HERBERT FISHER: Tubercle of the Conjunctiva.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—The annual general meeting of this society was held in the library of the Royal Infirmary, Newcastle upon-Tyne, on Oct. 11th. The following officers were elected for the ensuing session:—President: Mr. J. Rutherford Morison. Vice-Presidents: Dr. W. Robinson, Mr. J. L. Crisp, Dr. J. W. Smith, and Mr. G. W. Ridley. Secretaries: Dr. Thomas Beattie and Mr. Albert M. Martin. Committee: Dr. R. S. Peart, Dr. J. Adamson, Dr. W. Gowans, Dr. J. Murphy, Dr. G. H. Hume, Dr. D. Drummond, Dr. James Drummond, Dr. James Limont, and Dr. R. A. Bolam.—The first ordinary meeting of the session was then held, the newly elected President occupying the chair.—Mr. W. G. Richardson exhibited two cases after Operation for Diffuse Suppurating Peritonitis resulting from Appendicitis. In both cases following a few hours after an ordinary attack of appendicitis there had been sudden abdominal pain with collapse, and though operated upon 30 hours later when in an apparently hopeless condition the patients had recovered. Pus in each instance was diffuse in the peritoneal cavity and treatment had consisted in a free incision sufficient to permit of evacuation and adequate drainage, and the avoidance of lavage and in its place careful sponging, drainage being effected by strips of gauze placed in various directions—pelvis, hepatic pouch, &c.—The exhibition of these cases resulted in a general discussion on appendicitis and especially upon evidences indicating operation, in which Dr. Gowans, Dr. Davies, Dr. A. A. Martin (North Shields), Dr. G. R. Murray, Dr. Beattie, Dr. Robinson, Dr. Gray, Dr. R. Buttercase, and Mr. A. M. Martin took part.—The President, after reviewing the discussion, stated in answer to questions asked that, in his opinion, the most important points indicating operation were—(1) a second attack; (2) a lump; and (3) a sudden acute onset.—Mr. W. G. Richardson also exhibited a child after operation for Cerebellar Abscess. The child, aged seven years, had been operated upon one month previously for cerebellar abscess following suppurative otitis media. Recovery from such a condition was much rarer than its occurrence.—Dr. J. Gray read notes of a case of Phthisis cured in the Durham County Sanatorium, with brief notes of 14 other cases. The man, aged 22 years, had suffered from hæmoptysis, cough, and consolidation of the right apex. Tubercle bacilli had been plentifully demonstrated in the sputum. After ten days' treatment the cough and expectoration had disappeared. Four months later the patient was discharged; he was able to walk 15 miles and had gained a little over two stones in weight, but there were still slight physical signs. Dr. Gray then read a detailed table of 14 cases at various stages of phthisis, showing results of sanatorium treatment.—Dr. W. Robinson also brought forward a patient treated in the same sanatorium who had also gained over two stones in weight, was able to walk 20 miles in the day, was in apparently rude health, and without detectable physical signs. He remarked that cases of consolidation offered a better chance of ultimate recovery than cases of excavation.—The following members also took part in the discussion: Dr. T. Oliver, Dr. G. R. Murray, Dr. Beattie, Dr. I. G. Modlin, and Dr. Ethel Williams.—Dr. G. H. Hume showed a patient after Double Intestinal Resection and Anastomosis for Malignant Growth. This man, aged 48 years, had but slight symptoms of six months' duration and presented a firm, nodular mass in the epigastric and left hypochondriac region of the size of a fist. On laparotomy there were no evident glandular involvement and no secondary nodules. The mass involved primarily the transverse colon and was adherent to and infiltrated the mesentery of a coil of small intestine, necessitating the resection of about 12 inches of colon and a similar length of small intestine. The cut ends of colon were joined by direct suture, the small intestine being anastomosed laterally by a Murphy's button. The Murphy's button had been removed from the rectum three weeks after the operation. The specimen was also shown and seen to be a sloughing carcinoma of the transverse colon, remarkable for the scant symptoms it had given rise to.—Mr. A. M. Martin exhibited a rare example of Congenital Deformity. The child, 15 months old, was born after a normal labour and exhibited the following condition of hands and right foot. Three middle fingers of both hands were partially arrested in growth and webbed; the webs showed deficiencies at the bases. The index finger of the right hand had at the situation of the terminal interphalangeal joint a deep transverse furrow, and at the situation of the first inter-phalangeal joint an attempt at formation of a supernumerary finger. In the right foot the second and third digits were completely webbed and the fourth and fifth partially. There was a supernumerary toe at the end of the big toe.—Dr. Oliver exhibited two cases of Splenic Enlargement. The first was that of a man aged 34 years. He had been under observation for two years and gave a history of enteric fever and also gonorrhœa followed by stricture. He complained of pain, weight, and increasing abdominal swelling; he presented an enormously enlarged spleen extending down to the pelvis and to the right of the middle line. There were no hæmorrhages. The blood was characteristic, presenting evidences not only of anæmia but also of leucocytosis and myelocytosis. The second case was that of a man aged 36 years. He had been in the army abroad and

had suffered from malaria and syphilis. He also gave a marked alcoholic history. He presented an enlargement of the spleen of which he did not complain. Examination of the blood revealed no leucocytosis.—The following specimens were also exhibited:—The President and Dr. G. G. Turner: A series of 30 specimens illustrating the Pathology of Appendicitis.—Dr. G. R. Murray: Pork with Cysticerci Cellulosæ with microscopic slide of same.—Dr. Hume: A large Hydronephrotic Kidney.—Dr. Beattie: Aneurysm of the Pulmonary Artery in a Phthisical Cavity from which Fatal Hæmoptysis had occurred.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—The first meeting of the session of this society was held on Oct. 16th.—Mr. W. H. Horrocks, the retiring President, introduced the President-elect, Mr. F. Farrow, who then took the chair.—After a vote of thanks to the retiring President Mr. Farrow delivered his inaugural address, "Some Suggestions on the Work of a Medical Society," and in the course of his remarks urged (1) that a greater number of members should contribute papers and show specimens, not necessarily waiting till they had a rare case or specimen to communicate; (2) that members engaged in various branches of scientific research should bring before the society not only their finished results but should demonstrate and give accounts of their methods; and (3) that each member who experienced pleasure or derived benefit from attendance at the meetings should induce his medical friends to join the society. The greater the roll of members the larger was the fund of experience on which the society could draw. Further than this, a large membership was desirable in that it developed the social aspect of the society, which was quite as important as the scientific aspect and was of great value in causing the medical men of a district to have mutual knowledge of, and confidence in, one another and thus promoting a spirit of friendliness and *esprit de corps*.—Dr. J. Kerr showed a number of Sketches of the Fundus Oculi from recent cases. The cases included glaucoma, pigmentation of the macula, and blocking of the retinal vessels.—Mr. Basil Hall showed the following specimens: (1) Sloughing of an Ovarian Cyst due to Stretching of the Pedicle; (2) "Baker's Cyst" of the Elbow from a case of osteo-arthritis; and (3) Bones from a case of Amputation of Both Feet for Gangrene.—Dr. C. F. M. Althorp showed the following specimens: (1) Sarcoma of the Breast from a patient 60 years of age; and (2) Vermiform Appendix from a case of Recurrent Appendicitis; the appendix contained a large concretion and was adherent to the ovary and Fallopian tube.—Mr. J. R. McGee showed an Oxalate of Lime Calculus removed from the urethra of a child aged five years.—Dr. H. Angus showed a Gall-stone of about seven-eighths of an inch in diameter which had caused acute intestinal obstruction and had been passed by the rectum after the administration of enemata. It had been probably impacted in an annular growth of the sigmoid.—Dr. William Craig showed the kidneys from, and read notes of, a case of Uræmia caused by extreme attenuation of the kidney substance. The total weight of the two kidneys equalled 736 grains. The patient was a single woman, aged 42 years, a weaver. She fell in the street, after walking up a steep hill, while stooping to pick up a handkerchief, and struck her head on the ground. When seen a few minutes later she was lying in a dazed state and though able to give her name and address she could tell nothing more. She had worked regularly up to the time of seizure, but occasionally had to leave work on account of "sick headaches." There was no history of alcohol, syphilis, gout, rheumatism, lead poisoning, or scarlet fever. On admission to hospital her temperature was 98° F., and her pulse was 60, irregular, and not of high tension. There was no cyanosis or dropsy. The pupils were contracted and equal. The tongue was dry and furred. The heart's apex beat was in the nipple line; the second sound was reduplicated at the apex; there was no accentuation of the second sound. During the first night urine and fæces were passed involuntarily. More than a pint of urine was drawn off during the following day; the specific gravity was 1012; albumin was present in abundance; there was no sugar and no blood; hyaline casts were seen on microscopic examination. She lay in bed in a dazed condition. There was frequent jerking of the limbs. No paralysis was detected. On the day following admission she recovered somewhat, was able to swallow, and could move all her limbs. There was retention of urine. The pupils were unequal, the right being dilated. On the following day she passed into a state of coma and died on the fourth day after admission. There was occasional twitching of the limbs during this time. On the day preceding death the right pupil was contracted and the left was dilated. There was secretion of urine and of sweat. Post-mortem examination was performed 16 hours after death. On opening the skull there was seen meningeal congestion but no hæmorrhage anywhere. With regard to the heart there was no hypertrophy and the valves were normal. The lungs were normal. The kidneys showed extreme cirrhosis; no cysts or hæmorrhages were seen. The right kidney weighed 401 grains and the left weighed 335 grains. The capsules were slightly adherent. Microscopic examination showed chronic interstitial nephritis, marked interstitial overgrowth with catarrh in visible tubules, thickening of the capillaries in the Malpighian tufts, but no cell proliferation in the outer layer of Bowman's capsule. Dr. Craig said that the diagnosis of uræmia could only be made after the necropsy, as before death cerebral compression from hæmorrhage or injury could not be excluded. Another point of interest was that the kidneys continued functionally active in spite of the extreme shrinkage of the secreting substance. The absence of cardiac hypertrophy and of vascular change was also surprising. Lastly, in the absence of the causes usually assigned to nephritis, it was difficult to see what was the exciting cause of the attack.—Dr. D. Goyder, Dr. W. Mitchell, Dr. H. J. Campbell, and Dr. J. Kerr discussed the case, and Dr. Craig replied.

IPSWICH CLINICAL SOCIETY.—A meeting of this society was held on Oct. 20th, Mr. C. K. Moseley being in the chair.—Mr. J. R. Staddon showed a case of Congenital Dislocation of the Patella. The left patella was dislocated outwards. The patient suffered no inconvenience, being able to walk, to ride a bicycle, &c., like a normal individual.—Mr. W. F. Fryer showed an oldish man with a large Papillomatous Growth rising from the skin of the back just above the left buttock.—Dr. H. H. Brown showed a specimen of a Ruptured Tubal Pregnancy. When first seen the patient was in a state of collapse, almost pulseless, and with a distended abdomen. After two injections of 50 ounces of saline solution abdominal section showed the abdomen to be full of blood. The rupture in the tube was found and a double ligature was applied. After rallying slightly the patient died on the following day. The specimen showed that the ligatures remained firm and effectual.—Dr. Brown also showed a Uterus removed successfully for Carcinoma of the Cervix.—Mr. R. W. Brogden read a paper on Extra Uterine Pregnancy with notes of two cases. Case 1.—The patient was a multipara, aged 36 years. There had been no distinct menstruation for four months; abdominal swelling had been noticed for one month. The swelling was central, rising almost to the umbilicus; it was dull on percussion with resonance on both sides. The swelling was slightly tender. The cervix was fixed forwards behind the pubes. The uterus could not be well defined, being surrounded by what was taken to be inflammatory thickening. A sound was passed in to the normal extent and showed the uterus to be strongly anteverted. Slight losses of blood per vaginam occurred and the temperature after a time began to rise. An incision through the posterior vaginal wall where pus was thought to be gave exit to a small quantity of foul grumous material. The temperature fell, but the general condition of the patient became worse. Laparotomy revealed a large cyst behind the uterus containing foul grumous matter and a macerated fœtus. The cyst was thoroughly douched and drained, but the patient died the following night. Case 2.—The patient was a multipara, aged 27 years, with a history of two months pregnancy and three weeks previously of what was supposed to be a miscarriage. Only one slight hæmorrhage per vaginam occurred 18 days after admission to hospital. She complained of pain in the upper part of the abdomen. A rounded swelling could be felt on the right side reaching to within an inch or two of the umbilicus and separate from the uterus. The uterus was fixed with the cervix jammed down into the vagina. Attacks of acute pain in the swelling led to operation. This revealed a large thin-walled vascular cyst close to the right side of the uterus. It contained blood, placental tissue, and a dead fœtus. Hæmorrhage was very profuse and saline injections had to be given during the operation. The patient was extremely collapsed after the operation but made an uneventful recovery.—Mr. J. F. C. Hossack, Mr.

Reigate, Mr. J. R. Staddon, Dr. Fowler Ward, Mr. Fryer, and the President joined in the discussion which followed.—Mr. Wynne Davies showed (for Dr. R. K. Casley): 1. A case of Amputation at the Hip-joint by the Anterior Racket Method for a large Sarcoma of the Femur. The patient was a girl, aged 21 years. The growth was very rapid, involving the upper half of the femur and the vertical chain of glands in Scarpa's triangle. She made a good recovery and there was no sign of recurrence six weeks after operation. 2. A girl, aged 15 years, with an Intractable Intestinal Fistula the result of a typhlitic abscess two years ago. Three operations had been done with only temporary success. A fourth operation in which the bowel was thoroughly freed from all adhesions to the surrounding tissues, the sinus being cut out and a double row of Lembert sutures inserted, had resulted in a permanent cure.

GLASGOW SOUTHERN MEDICAL SOCIETY.—The annual dinner of the Glasgow Southern Medical Society was held on Oct. 18th in the St. Enoch Station Hotel, Glasgow. A large and representative gathering of medical gentlemen assembled under the chairmanship of Dr. William Watson, President of the society. Dr. John Stewart and Dr. William McMillan acted as croupiers. Sir Hector C. Cameron, Honorary President, was the guest of the evening, and among others present were Principal Story, Professor John Glaister, and Professor Ralph Stockman. At the close of a well-served repast the chairman proposed "The Queen and Royal Family" in felicitous terms.—To Dr. John Stewart was assigned the toast of "The Navy, Army, and Reserve Forces"—proposed in excellent words—and replied to by Surgeon-Lieutenant-Colonel A. Napier.—Mr. R. H. Parry then gave the toast of "Our Honorary President," and in doing so made reference to the honours which had recently fallen on the shoulders of Sir Hector Cameron. From Her Majesty the Queen he had received the honour of knighthood, and by the University he had been selected for the chair of Clinical Surgery, and it seemed appropriate that at about the same time he should be elected to the position of honorary president of the Glasgow Southern Medical Society.—Sir Hector Cameron, in responding, thanked those present for the cordial manner in which they had received the toast. While he valued the honours of which lately he had been the recipient he could not but feel gratified by the knowledge that he was also receiving honour at the hands of his own professional friends. He could assure them that it would be a source of pleasure to him to be of service at any future date to the Glasgow Southern Medical Society.—Dr. E. Duncan proposed the toast of "The University" and emphasised the lamentable position of laboratory accommodation in the medical faculty.—Principal Story, in acknowledging, said that the present wants of the University resolved themselves into one of finance. He was glad to be able to inform them that already some of these wants had been supplied. For some time laboratory extensions had been in progress and he hoped that at an early date further extensions would be inaugurated. To this end money was required and he felt convinced that as soon as the wealthy men of Glasgow realised the present needs the necessary funds would be forthcoming.—The other toasts which followed included "Our Society," proposed from the chair; "Kindred Societies," proposed by Dr. D. MacGilvray and replied to by Professor Glaister and Dr. S. Sloan; "Our Guests," by Dr. J. W. Allan, acknowledged by the Rev. D. McCorquodale; and "The Chairman," by Dr. C. E. Robertson.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held at Lavender-hill, S.W., on Oct. 10th. Dr. B. Duke occupied the chair in place of the President, Dr. M. G. Biggs, who was absent through illness. —Mr. Noble Smith, surgeon to the City Orthopædic Hospital, gave a demonstration on the use of apparatus in orthopædic surgery generally and for spinal curvatures in particular. He showed how advantageously the medical man could apply his surgical knowledge in the efficient construction and application of such apparatus so as to fix diseased joints very thoroughly. He considered that if such a course were generally adopted there would be far fewer severe operations required, operations which left the patient minus a joint or a limb. If tuberculous disease of the spine could be almost always cured by fixation and general treatment—as it could be—then there could be no reason why the same disease in other than spinal joints could not be treated with equally good results. It was chiefly a mechanical question, a question of efficient fixation. Mr. Noble Smith then demonstrated the application of a spinal splint made of malleable iron which could be adjusted and fitted by the surgeon himself with great accuracy. By use of this apparatus in angular curvature gradual and considerable straightening of the curvature and expansion of the thorax and freedom of respiratory movements were obtainable. It was in every respect more effective than the ordinary "jacket." In treating lateral curvature where an apparatus was necessary the use of the muscles was encouraged and not interfered with. A series of photographs was exhibited.—Mr. Noble Smith further showed some plaster casts portraying the stages of treatment of severe varus as carried out at the City Orthopædic Hospital. The ultimate result was very satisfactory, producing a natural foot freely moveable, without that rigidity which almost invariably followed severe operations on the bones.—Several members of the society who took part in the subsequent discussion expressed themselves as having been very favourably impressed by the results of the treatment of spinal deformities in cases which had come under their own observation.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—The first meeting of the present session of this society was held on Oct. 8th, Mr. A. Ernest Maylard, Vice-President, being in the chair.—Dr. T. K. Dalziel showed: 1. A specimen of Epithelioma for which the horizontal portion of the right lower jaw had been removed. He aimed at avoiding hæmorrhage during, and cicatricial contraction after, the operation; with the former in view he cut gradually down from without, ligaturing the vessels as they were divided; to avoid cicatricial contraction he sutured the mucous membrane of the cheek to that of the floor of the mouth and obtained union by first intention. Six weeks later the displacement of the remaining half of the jaw was barely half an inch, while by a slight effort the patient could oppose his teeth perfectly. 2. Hypertrophied Mammæ which he had removed from a girl aged 15 years. The organs weighed respectively 7 lb. and 4½ lb.—Dr. T. S. Meighan showed a patient who had suffered from Diplopia due to traction inward of the eyeball by the cicatrix following the operative treatment of a pterygium. Dr. Meighan had dissected up the scar and slid into the space upper and lower flaps of conjunctiva, completely curing the deformity and the diplopia.—Dr. Alfred A. Young showed a specimen of a Myxoma from the scalp of a man, aged 38 years. The tumour was thought to be a wen till cut into at the operation. It was situated superficially to the aponeurosis and was firmly attached to the skin, part of which had been removed along with the tumour. Microscopically it presented some of the features of angeio-myxoma.—Dr. J. H. Teacher read a further note on Menstrual Decidua.—Dr. John Gordon showed a specimen in which the Gall-bladder Communicated with the Transverse Colon by a Tubular Canal, probably of the nature of an inflammatory adhesion.—Professor R. Muir showed a fresh specimen of an Appendix Perforated by Ulceration and containing a Concretion.

FOREIGN UNIVERSITY INTELLIGENCE.—*Copenhagen:* Dr. Wanscher has been appointed Extraordinary Professor of Surgery.—*Florence:* Dr. Livio Herlitzka has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Genoa:* Dr. Carlo Tarchetti has been recognised as *privat-docent* of Medical Pathology.—Dr. Buccelli of Naples has been recognised as *privat-docent* of Neurology and Electro-therapeutics.—*Halle:* Dr. Karl Grunert, *privat-docent* of Otology, has been granted the title of Professor.—Dr. Tschermak of Leipsic has been recognised as *privat-docent* of Physiology.—*Helsingfors:* Dr. Tigerstedt of Stockholm has been appointed to the chair of Physiology. —*Kiel:* Dr. F. Klein, *privat-docent* of Physiology, has been granted the title of Professor.—*Modena:* Dr. G. Palazzi has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Naples:* Dr. Alberto Solaro has been recognised as *privat-docent* of Medical Pathology, Dr. D. Ventra as *privat-docent* of Psychiatry, and Dr. Nicola Sorrentino as *privat-docent* of Dermatology and Syphilography.—*Prague (Bohemian University):* Dr. K. Kuffner has been appointed Professor of Neurology and Mental Diseases. (*German University*): Dr. Schloffer has been recognised as *privat-docent* of Surgery.—*Rio de Janeiro:* Dr. Antonio Bittencourt has been appointed Assistant Professor of Medical Physics and of Organic Chemistry.—*Tübingen:* Dr. Sarwey, *privat-docent* of Gynæcology, has been appointed Extraordinary Professor.—*Utrecht:* Dr. T. Ziehen of Jena has been appointed to the chair of Psychiatry.

Reviews and Notices of Books.

Optique Physiologique. Leçons professés à la Sorbonne par le Dr. TSCHERNING. (*Physiological Optics.* Lectures delivered at the Sorbonne by Dr. TSCHERNING.) Paris: Carré et Naud. 1898. Pp. 335.

THE talented young author of this book, who is well known as a translator into French of the works of Dr. Thomas Young, has endeavoured to give to the student within the limits of a portable volume an intelligible account of physiological optics. The mathematics introduced into the text are not beyond the comprehension of a moderately well-instructed reader and are not more abstruse than those that are to be found in Donder's classical treatise on the Refraction of the Eye published by the New Sydenham Society. He divides the book into three parts, the first treating of Ocular Dioptrics; the second of the Functions of the Retina; and the third on the Movements of the Eye and Binocular Vision. The early chapters are devoted to the consideration of the ordinary laws of dioptrics and catoptrics with definitions of such terms as "point of fixation," "visual line," "optic axis," and the "angle α." A particularly good account is given of the images of Purkinje and the mode in which they can best be observed; no less than six images are described. A chapter is occupied with the principles of ophthalmometry, and Dr. Tscherning describes an ophthalmophakometer that he has devised to determine the angle α. He speaks warmly in praise of Dr. Young's optometer. Anomalies of refraction are considered at some length and their relief by glasses is explained. The subject of regular and irregular astigmia is particularly well treated and many illustrative drawings of the latter are given.

An interesting chapter is devoted to the consideration of the various theories that have been advanced from the time of Kepler to the present on the accommodation of the eye. Dr. Tscherning, it is now well known, has advanced a theory of his own to explain the phenomena of accommodation, but he remarks in a note on Helmholtz's theory that great men should really be very reserved in their statements for fear of misleading their followers and partisans. Helmholtz, for example, suggested that the cornea is an ellipsoid, and although he especially states that the cornea does not resemble such a surface, the idea has been so rooted in men's minds that it is difficult to eradicate it, and so with his theory of accommodation, as will be seen if the trouble is taken to compare the doubtful phrases which he uses with the positive statements contained in books professing to give his views. The participation of the posterior surface of the crystalline lens in accommodation, a principle that everyone regards as certain, was in Helmholtz's estimation only highly probable. Dr. Tscherning himself holds that accommodation is effected by the transient formation of an anterior lenticonus by muscular effort, and this he considers to be the result of traction exerted upon the periphery of the lens. The lens, he maintains, has a soft outer layer, to which he applies the term "accommodation layer." The defective capability of accommodation of the eye in advancing years is due to the reduction in thickness of this soft external layer. It has been erroneously held, he is of opinion, that traction exerted on the zonule effects the flattening of the surfaces of the lens and that compression exerted on the periphery of the lens augments its curvature. The exact opposite really obtains—namely, that compression exerted on the periphery of the lens flattens the surfaces, whilst traction effected on the zonule augments the convexity of the lens at its centre whilst flattening that body at its periphery. Dr. Tscherning's observations on the change of form of the lens and on the images of Purkinje were ingeniously made on himself by the use of an ophthalmoscopic mirror. In considering the subject of ophthalmoscopy he demonstrates that the size of the image of the disc seen in the inverted image of the fundus of an emmetropic eye through a + 13 D. glass is enlarged about five times. In speaking of skiascopy or retinoscopy he reconciles the different expressions used by Parent and Leroy to explain the nature and movements of the shadow in that mode of examining the eye.

The functions of the retina are briefly discussed under the several headings of the luminous, the chromatic, and the form senses. The several theories of colour are dwelt upon at considerable length, leading him to remark that the subject of colour has not as yet found its Newton. The last part of the book is occupied with the movements of the eye and binocular vision. Enough has been said to indicate that these lectures should be read by every student of ophthalmology, and we venture to say that all who do so will derive pleasure and profit from their perusal.

Flesh Foods, with Methods for their Chemical, Microscopical, and Bacteriological Examination. By C. AINSWORTH MITCHELL, B.A. Oxon., F.I.C., F.C.S. London: Charles Griffin and Co., Limited. 1900. Pp. 336. Price 10*s.* 6*d.*

OUR knowledge of all that pertains to flesh foods is certainly very widely scattered and a *résumé* of the various contributions on the subject was needed. In the work before us Mr. Mitchell has undertaken this task in a thorough manner and with success. The subjects involved are not easy to collate, especially as they embrace so many departments of specific knowledge. The author defines the work as a practical handbook for medical men, analysts, inspectors, and others. Physiology, bacteriology, and chemistry are all necessarily indicated in an inquiry into the nature and character of flesh foods. Again, the microscope is an essential aid in discriminating normal or abnormal flesh and in indicating the existence of parasites and in identifying them. Nor is a macroscopic examination without value, and, indeed, a close study of the appearance of meats enables the examiner to pass judgment on the fitness or unfitness of meat for human consumption. The importance of the book is accentuated when this particular bearing of the study of flesh foods is regarded. The work is exhaustive, as will be seen from the following broad synopsis of its contents. Chapter I. deals with the structure and chemical composition of muscular fibre, Chapter II. with the structure and composition of connective tissue and blood, Chapter III. with the flesh of different animals, Chapter IV. with the examination of flesh, Chapter V. with the methods of examining animal fat, Chapter VI. with the preservation of flesh and the composition and examination of preserved flesh products, Chapter VII. with the composition and analysis of sausages, Chapter VIII. with the proteids of flesh, Chapter IX. with meat extracts and flesh peptones, Chapter X. with the cooking of flesh, Chapter XI. with poisonous flesh, Chapter XII. with the animal parasites of flesh, Chapter XIII. with the bacteriological examination of flesh, and Chapter XIV. with the extraction and separation of ptomaines. Of these chapters those relating to chemistry, composition and analysis are in our opinion the best written. The chapter on meat extracts and flesh peptones is specially valuable in usefully presenting in review the chemical methods in vogue for the valuation of meat extracts, peptones, &c. It must be confessed that the differentiation of the various digested products by chemical means is still far from satisfactory and, further, we have no definite idea as to the real physiological value of the various definite products which have been thus chemically

separated. It is the fashion now to determine the total proteids by means of bromine water and the albumose by "salting out" with zinc sulphate, but who shall affirm that the physiological value of a given preparation varies directly with the amount of constitutents indicated by these precipitants? The chapter to which we have referred is, however, valuable, as we have said, because it recounts the methods of analysis employed by various observers in the separation of proteids and, moreover, gives the results obtained with several well-known meat preparations. To some extent, therefore, we are enabled to comprehend the various methods at a glance and to get some idea of their comparative worth or worthlessness in throwing a light upon the value of the preparations as real nutrients.

With the general plan of the book we have no fault to find; the subject is admittedly difficult of classification. A decided improvement in the arrangement of the subject-matter, however, would have been a greater display in type of the headings of the various chapters so as more sharply to distinguish the headings of the chapters from the headings of the paragraphs. In some cases the headings of the paragraphs are in larger capitals than the headings of the chapters. This is a disadvantageous arrangement when searching through the pages for the different subjects. We are aware of no work in the English language which is devoted entirely to "flesh foods," although the importance of having at hand all that has been usefully written upon the subject compactly between two covers is obvious. The possession of a copy of Mr. Mitchell's work will save medical men, analysts, sanitary inspectors, and others an infinite amount of reference which previously had to be made to a score of books each touching upon the subject only here and there.

The Origin and Character of the British People. By NOTTIDGE CHARLES MACNAMARA. London: Smith, Elder, and Co. 1900. Pp. 234. Illustrated. Price 6*s*.

WITHIN the last few months a veritable epidemic of works on ethnology, anthropology, sociology, and the allied sciences appears to have infected authors and publishers alike, and what with Keane's "Man, Past and Present," Deniker's "Races of Man," Ripley's "Races of Europe," and the recent translation of Haberlandt's "Ethnology," we must confess to a certain sense of bewilderment. As regards the volume under review, in that it deals with a subject of such personal interest as the evolution, moral and physical, of our own race, there can be no doubt that it will appeal to a large number of English readers for whom abstract works on ethnology would have fewer attractions. Starting with the primitive inhabitants of these islands, from the evidence of craniology and palæolithic research, we are presented with a very fair picture of the general physical and mental development of the race from which we originally sprang. The picture becomes still clearer when we come to the period of foreign immigration which set in in a westward direction and left its mark by intermarriage and association on the natural characteristics and qualities of a people who seemed almost incapable of independent mental evolution.

As far back as the time of the Roman invasion the Iberian or primitive stock was already mixed with a Mongolian and Aryan element, and before the time of William the Conqueror there had been a further fusion with Teutonic races. This free intermingling with the hardy Teutonic elements has endowed the British people with great vigour and pliability of character—virtues which were not conspicuous in our original Iberian progenitors. Contrasting the diverse elements which constitute our composite character it is not altogether reassuring to learn that there are indications of a reversion to the Iberian type to be noticed among the working classes of London and other large towns, and that this tendency is not confined to psychological attributes alone but unfortunately extends to the physical development.

The psychological similarities and differences which are peculiar to different races, the reasons for their manifestation, and the effect of their operation, constitute sociological problems which are suggestively and ably dealt with by the author in his concluding chapter. For instance, concerning the future settlement of South Africa, we are reminded that the Boers are derived from the same branch of the human family as we are ourselves, and that they possess distinctive racial characteristics—"a brave, self-reliant people, who under just laws and with strict regard to their prejudices and hereditary sentiments will in time fraternise with the Anglo-Saxon." But whether or no abstract sociology has general application in practical politics this advice with regard to our "brother Boer" has a practical and withal a familiar ring. In those portions of the book which have reference to the evolution of man we cannot help thinking that the author exhibits less breadth of view than when dealing with the more general questions of ethnology. While admitting that all evidence goes to prove that man and the anthropoid apes are descended from a common ancestor he maintains that the main factor which has determined their distinctive differences is to be discovered in the method of ossification to be observed in their respective skulls. The skull of man possesses greater "innate power of growth" and the frontal sutures remain longer open: the brain is in consequence allowed greater freedom of expansion than obtains in the case of the animals lower in the scale. A distinction of such fundamental importance can hardly be drawn with justice from the evidence of craniology alone. The problem is one of general biology which admits of no such simple solution. If it be true that the gorilla has been condemned to eternal brutality merely because the protective envelopes of his brain refused to expand and that man became man because the same structures spontaneously enlarged, there is less in the influence of environment and the response of protoplasm to external stimuli than many of us are inclined to believe.

Dealing, however, with a subject of wide human interest Mr. Macnamara has marshalled his facts and theories in a logical and scholarly spirit and has contributed a scientific and literary volume to the goodly library of works by medical authors.

Diseases of Women. By E. C. DUDLEY, A.M., M.D. Second edition, revised and enlarged. With 453 Illustrations, of which 47 are in Colours, and eight Full-Page Plates in Colours and Monochrome. London: Henry Kimpton. 1900. Pp. 717. Royal 8vo. Price 21*s*. net.

As it is only two years since the first edition of this book was published the author has had merely to modify and re-arrange the work and make such changes and additions as were necessary to secure greater accuracy and completeness. One of the defects that we noticed when the book first appeared—viz., that no separate account was given of the functional disorders of menstruation and of sterility—has been remedied by the addition of another part to the book. This includes a detailed account of the disorders of menstruation and of sterility. The pathological states in which these symptoms are present are described and their appropriate treatment is pointed out. These chapters will no doubt increase the usefulness of the book to students and practitioners.

The sections upon diagnosis and cystitis have been largely added to. Dr. Dudley points out "that the management of cystitis has risen from the plane of empiricism and has taken its place upon the scientific basis of pathology." This

change is due mainly to recent investigation (especially bacteriological) into its etiology and improved modes of examination and of treatment. Attention is drawn to the important fact that in a large number of cases the urine remains acid and that cystitis is only a symptom and not a distinct disease. The value of the endoscope and cystoscope is very great and by their use alone can a certain diagnosis be made and efficient treatment be carried out. Routine washing out of the bladder is condemned. In the chapter upon diagnosis an interesting account is given of "Harris's Segregator," an ingenious instrument for collecting the urine separately from each ureter. It consists of two catheters, their straight portion being inclosed in a flattened tube and each being separate and moveable upon its longitudinal axis. The instrument having been introduced into the bladder the catheters are rotated so that their curved bladder ends lie one on either side of the trigone. A metallic lever which can be attached to the catheters by a metal arm is introduced into the vagina and its upper end is elevated so as to raise that portion of the bladder wall which lies between the two separated ends of the rotated catheters, and so form a watershed. The urine as it escapes on either side from the ureters flows out through the catheter of the same side. The instrument is certainly ingenious in conception. It is claimed that it has advantages over the ureteral catheter in that it can be used by the non-expert, does not invade the ureters, and therefore cannot injure or infect them. The book retains its chief characters and we still think, as we remarked in our notice of the first edition, that it is of unequal merit and somewhat badly proportioned. It gives, however, a very interesting view of the practice and opinions of one of the prominent American gynæcologists. It is a pity that the author has been compelled to increase its size by some 78 pages. 31 new illustrations have been added and six very excellent coloured plates. At the present day the art of book-illustration has been carried to such a high pitch in America, and such beautiful examples of it have recently appeared in some of the American text-books, that it is a little disappointing to find how poorly many of the illustrations in this work are reproduced, especially such as are original. We can commend the work to those who wish to know something of the American school of gynæcology.

LIBRARY TABLE.

Ethnology. (Temple Encyclopædic Primer Series.) By Dr. MICHAEL HABERLANDT. Translated by J. H. LOEWE. London: J. M. Dent and Co. 1900. Pp. 167. Illustrated. Price 1*s.*—This little work on ethnology, one of the latest additions to the "Temple Primer" series, has been translated from the German of Dr. Michael Haberlandt by Mr. J. H. Loewe. Dr. Michael Haberlandt, although an accepted authority on the subject of ethnology, has not the gift of literary fluency, his style is ponderous even for a German. Unfortunately the translator has kept so closely to the idiomatic style of the original German that the reader is frequently forced to a mental paraphrase before he arrives at the meaning which certain sentences are intended to convey. The subject-matter, although necessarily condensed, is interesting and suggestive from start to finish and it affords the reader a very fair insight into what may be called the alphabet and grammar of the science. Although ethnology is by no means confined to the prehistoric history—if we may use the paradox—of the races, so far as this little work is concerned the story of mankind mostly leaves off where written records and papyri take up the narrative. The contents are divided into three sections. The first deals with the forces in the life of nations which have contributed to their development; the second section is concerned with the culture of the different races; and the third and largest section gives a short statistical survey of the present distribution of nations and a systematic history of the more important races of man. The reader who has made himself acquainted with the contents of this unpretentious little volume will be sufficiently well versed in the moral, mental, and physical characteristics of man in all their ethnological manifestations to form a thoroughly reliable picture of mankind.

The Human Frame and the Laws of Health. (Temple Encyclopædic Primer Series.) By Dr. REBMANN and Dr. SEILER. Translated from the German by F. W. KEEBLE, M.A. London: J. M. Dent and Co. 1900. Pp. 140. Illustrated. Price 1*s.*—This little book could hardly be more condensed: in 140 pages it contains as many facts relating to physiology, anatomy, and hygiene as in less able hands could well be spread over three volumes of the same size. The subject-matter is, however, presented in such an attractive and interesting form that the reader is by no means conscious of the degree of condensation until he takes stock of the knowledge which he has acquired by the perusal of the book. From beginning to end it would be most difficult to detect an unnecessary or redundant sentence, and the authors have evidently been at great pains to reject controversial and theoretical matter and to emphasise only established facts and necessary essentials. The first part is divided into seven chapters, which deal in order with the Skeleton, the Muscles, the Nervous System, Metabolism, Excretion, Temperature, and the Larynx. The reason for the separation of the larynx from the organs which are usually arranged in association is not altogether evident, and wedged in as it is between chapters on Temperature and tables of chemical constituents it tends to upset the continuity of scheme which is manifest throughout the other sections of the work. The second part, which is concerned with the laws of health, is further subdivided into the three following subjects: (1) the Necessaries of Life, (2) Hygiene for Special Circumstances, and (3) the Care of the Body. The importance of applied physiology in the development of mind and body, especially in children, renders this second part particularly valuable for board school teachers and others who have the charge of young persons. It is to be hoped that many of those who hold these responsible positions will avail themselves of the opportunities afforded by this little work for acquiring the necessary knowledge in an easy and effectual manner.

The Diagnosis and Treatment of Eczema. By TOM ROBINSON, M.D. St. And., physician to the Western Skin Hospital. Second edition. London: J. & A. Churchill. 1900. 8vo. Pp. 136. Price 3*s.* 6*d.*—The differences between this, the second edition, and the first, which appeared in 1887, are very slight; here and there a word is altered or a sentence is added or a phrase is removed, but there is certainly no indication of the extension of our knowledge during the last 13 years. The index has been reprinted without any alteration so that the references to pages are often inaccurate. This is a pity, as it would have been easy to have made it correct. Allowing for these defects it may be said that the account of eczema which this little book contains may prove useful to those who have but little acquaintance with the subject.

SANITARY INSPECTORS' ASSOCIATION.—A meeting of the western branch of this association was held on Oct. 13th at Tiverton under the presidency of the Mayor. The borough surveyor gave an address on Sanitary Work in Tiverton and the deputy medical officer of health (Dr. R. Shiels) read an interesting paper on Tracing Epidemics. The newly-erected isolation hospital was inspected and the members were entertained at dinner by the Mayor.

Analytical Records

FROM

THE LANCET LABORATORY.

BYNO-HÆMOGLOBIN.

(ALLEN AND HANBURYS, BETHNAL-GREEN, LONDON, E.)

HÆMOGLOBIN is of well-known value in impoverished conditions of the blood, and its association with the active enzyme of malt is calculated to add to its value in favourably promoting the processes of nutrition. Besides being an active digestive of farinaceous food liquid malt or bynin contains itself nutritive elements. This new preparation is therefore a therapeutic gain. It presents iron in the best known assimilable form. We have carefully examined the preparation and have found the hæmoglobin to be present as such intact. On diluting byno-hæmoglobin with water a fluid is obtained resembling diluted blood and its spectrum is identical with fresh blood. At the same time its digestive action on starch remains unimpaired, as is shown by its rapid liquefying effect upon starch jelly with ultimate conversion into dextrin and malt sugar. The preparation affords a very agreeable way of administering pure hæmoglobin. Its taste is pleasantly malty and it keeps well though no objectionable means are adopted for its preservation.

ICHTHOFORM.

(GUSTAV HERMANNI, JUNIOR, 20, HIGH HOLBORN, LONDON, W.C.)

Ichthoform is the interesting compound of ichthyol and formaldehyde. It possesses the same colour as ichthyol but ichthoform is an inpalpable powder. The chief object of this preparation therapeutically appears to be to ensure ichthyol reaching the intestinal canal. The powder is unchanged in the gastric juice. In the intestinal canal its effect is doubtless antiseptic owing to the formaldehyde present, while the ichthyol exerts a specific medicinal action. Ichthoform is stated to have been used with advantage in dysentery and typhus fever.

OXO (FLUID BEEF).

(LIEBIG'S EXTRACT OF MEAT COMPANY, LIMITED, 9, FENCHURCH-AVENUE, LONDON, E.C.)

This is a concentrated beef essence prepared evidently by the aid of heat. It contains insoluble albuminous substances but neither syntonin nor unaltered (fluid) albumin. According to our examination it does not contain any important quantity of peptone but contains albumose judging from the precipitates obtained with bromine and zinc sulphate respectively. The proximate analysis was as follows: moisture, 37·76 per cent.; organic matters, 47·61 per cent.; mineral matters, 14·63 per cent. The total nitrogen was 7·24 per cent. The insoluble albuminous matter amounted to 9·49 per cent., while the albumose, according to the zinc sulphate precipitate, amounted to 12·48 per cent. About three-fourths of the solid matters were insoluble in alcohol. The percentage, therefore, of crystalline extractives (stimulating) is small in relation to the real nutrient matters. The preparation makes a pleasant "beef cup," the taste being very satisfactory and appetising. "Oxo" possesses nutritive value and serves undoubtedly as an aid to nourishment.

(1) TABLOID BLAUD PILL; AND (2) "ENULE" LEAD AND OPIUM.

(BURROUGHS WELLCOME AND CO., SNOW-HILL-BUILDINGS, LONDON, E.C.)

According to our examination the tabloid Blaud pill secures the administration of the iron in an absolutely unoxidised or ferrous condition. The mixture of ferrous sulphate and sodium carbonate keeps intact partly by the effectually protective coating of sugar and partly by the excellent condition of the salts at the time of mixing. Though the mixture is compressed and compact, yet on moistening the mass the interaction of the two salts soon takes place and is speedily complete. Each tabloid is equivalent to an eight-grain Blaud pill. The therapeutic object of the Blaud pill is, of course, lost unless very careful means are taken as in the tabloid for the protection of its contents against oxidation. The lead and opium "enule" is a rectal suppository of special shape containing three grains of sugar of lead and one grain of opium. The "enule" is contained in a metal protective sheath which protects the contents from objectionable atmospheric influences. This particular "enule" has been designed as a convenient means of obtaining the astringent and sedative effects respectively of acetate of lead and opium.

VARIOUS MINERAL WATERS.

(JEWSBURY AND BROWN, ARDWICK GREEN, MANCHESTER.)

We have commented before on the desirability of providing a scrupulously pure supply of water for the preparation of aerated beverages and also special machinery which cannot give rise at any point to metallic contamination. We have carefully examined various samples of artificial mineral waters, aerated beverages, and carbonated medicinal waters submitted to us by the above makers. In no instance did we find any evidence of metallic contamination or of the common impurities of water, while in the case of carbonated medicinal waters we invariably found the amount of drug present to be substantially as described. We carefully assayed, for example, the soda, lithia, potash, and lysidine waters with the result that we found exactly the respective quantities said to be present. The specimen of hop ale proved to be a very agreeable effervescing beverage delicately bittered with hops. It is correctly described as "non-intoxicating," the amount of alcohol, according to our analysis, being under 2 per cent. by volume. A satisfactory beverage also is the "lemon soda" which though agreeably lemon-flavoured is not excessively sweet as is most lemonade. It is more like the average kind of lemonade diluted with soda water and hence probably its name "lemon soda." "Dry ginger ale" is another improved beverage possessing the delicate aromatic flavour of ginger, unirritating and with a much less proportion of sugar than is usually the case. Amongst the aerated medicinal waters were piperazine and lysidine waters. Finally, the above firm prepares an excellent koumiss. These aerated preparations are of merit and entitled to praise on account of their purity and excellent quality. The modifications, too, in regard to the palatability of certain popular and wholesome beverages in the manner we have indicated will be recognised as improvements.

TAKARADZUKA MINERAL WATER (TANSAN).

(J. C. WILKINSON, HIOGO, JAPAN, PROPRIETOR. LONDON: COSENZA AND CO., 95, WIGMORE-STREET, CAVENDISH-SQUARE, W.)

This sparkling mineral water apparently hails from Japan and according to the analysis printed on the label of the bottle contains a notable quantity of iron. Some claim is made, therefore, for this water in favour of its ferruginous properties. We cannot endorse this claim in any sense, for we found absolutely no iron present nor could we confirm the analysis referred to in other respects. We could only find common salt and a little carbonate of lime. The total solid matters amounted to 17·50 grains per gallon, of which 16·45 grains were common salt. We could not find that there were any sulphates present, as is also stated on the label. These differences are difficult to account for unless it is that the water has been derived from another source since the analysis printed on the label of the bottle was made. The water is

pleasant to the taste and agreeably sparkling and it is free from the common impurities of mineral waters.

CONCENTRATED SALINE GELATIN SOLUTION.

(W. MARTINDALE, 10, NEW CAVENDISH-STREET, LONDON, W.)

The treatment of hæmorrhage by the subcutaneous injection of a saline solution of gelatin has been employed with striking success, as was shown in a communication in our columns of Sept. 8th, 1900 (p. 772). Mr. Martindale has prepared a concentrated saline gelatin solution in sealed tubes each of which contains sufficient fluid for one injection—that is, sufficient to form two pints of normal saline solution. The convenience of possessing a standard solution for this purpose is obvious. The sealed tube terminates in fine points which can be easily broken so as to allow of the emptying of the tube. The contents are poured into two pints of boiled distilled water. The mixture is cooled to 105° F. and then used for intravenous injection in cases of severe hæmorrhage.

PASTILLES AND TROPELS.

(WYLEYS, LIMITED, COVENTRY.)

Under the designation of the "three spires brand" Messrs. Wyleys are introducing various tropels and pastilles in two-ounce and four-ounce enamelled tins. Amongst those which we examined were menthol and eucalyptus pastilles, antiseptic throat pastilles, and bronchial tropels, but other preparations may be made in accordance with the directions of the practitioner. The materials are evidently of the highest quality and the proportions of medicaments present are the most suitable for the purpose.

New Inventions.

DOUBLE-CHANNELED DRAINAGE TUBING.

As the name implies, and as the figure shows, this differs from the ordinary tubing by having two channels, running side by side, in place of the usual one. It can be passed as easily, and in the same way, as the ordinary tubing, and in draining superficial cavities and wounds it has the advantage of being less readily blocked by discharges, clots, &c., as there are two paths of exit. The cases, however, in which it has been found more particularly useful, and for which it was originally devised by me in May last, are those where deep-seated cavities, abscesses, cysts, empyemas, &c., are not only to be drained but also irrigated. The fluid employed is injected into one channel, passes into and flushes the abscess or other cavity, and returns by the second (exit) path, and as it is not forced into a cul-de-sac, as is the case when the ordinary or no tubing is employed, delicate adhesions are not likely to be broken down. The nozzle of the syringe or irrigator should not be bulbous but tapering, so as to fit any size of tubing. Care should be taken that when inserting the nozzle the exit-path is not occluded. Should there be any difficulty about this, a fenestra may be cut in the exit-channel near its mouth. It is advisable, also, to fenestrate the distal end of the tubing if the cavity to be drained or flushed is some distance from the surface. If the tubing does not fit fairly tightly the fluid tends to escape alongside and in consequence the flushing is not so thorough as it might be; this may be prevented by gently compressing the parts around the proximal end of the tube or by lightly packing with gauze. The tubing may be obtained in various sizes from the makers, Messrs. Arnold and Sons, West Smithfield, London.

CHARLES FRANCIS STEELE, M.R.C.S. Eng.,
Clifton. L.R.C.P. Lond.

A SIMPLE BED-REST.

WE have received from Mr. John Ellerton of Leamington a specimen of a simple apparatus which he is bringing out to form a bed-rest. The instructions supplied with the apparatus are as follows and give a clear account of how it is used:—

Pass a strap through each of the rubber rings and buckle them to the opposite corners of the foot frame of the bedstead, as high as it allows, and so that they will not slip downward or sideway. Fasten the spring hook which is at one end of the long cord to one of the sling pulleys; it should be on the less accessible side of the bed, if either be so. Pass the other end of the cord inward, through the wooden pulley on that side of the bed, then outward through the other pulley; then place the sling behind the patient, sitting up. The stamp on the sling shows which is its lower edge and the inner side to be next to the body. Draw the cord through the ring of the other sling pulley, so as to hold the sling against the back, at the height desired, and fasten it firmly by making a bow through a cast of the cord round itself, pulled tight. To untie, simply pull the end of the cord. If more support be required at either the upper, middle, or lower part of the back, tie closer together the pair of tapes there. To allow a greater recline, untie, slightly lengthen, and re-tie the cord. To support, leaning over the bedside, both straps may be fastened at or near the opposite corner, and the sling slightly shifted round the body toward the side leaned over.

We have tried the rest and find it fairly comfortable, but we should suggest as an improvement that a rod of wood or metal might be supplied to keep the two side ropes further apart, something after the fashion in which a "Clover's crutch" keeps the legs apart. As at present constructed the sling rather compresses the body.

THE ENTRIES AT THE MEDICAL SCHOOLS.

BY the courtesy of the deans of the various medical schools we are enabled to give roughly the number of students who have entered upon medical study this year in the metropolis.

ENTRIES FOR THE YEAR 1900–1901.

Name of medical school.	Full medical course.	Special courses.	Prelim. science.	Dental.	Full medical course, 1899–1900.	Increase or decrease in full medical students over or under last year's figures.
St. Bartholomew's	87	43	12	0	115	− 28
Charing Cross	18	30	4	33	18	No change.
St. George's	17	2	1	0	†	?
Guy's	80	28	17	64	79	+ 1
King's College	25	150*	8	1	‡	?
London	74	41	12	0	83	−
St. Mary's	43	34	8	0	50	− 7
Middlesex	22	37	0	12	24	− 2
St. Thomas's	47	7	11	0	60	− 13
University College...	35	55	45	0	45	− 10
Westminster	18	27	5	1	18	No change.
London School of Medicine for Women	23	1	14	0	20	+ 3
National Dental Hospital ...	‡	‡	‡	‡	‡	?
Dental Hospital of London...	‡	‡	50	‡	‡	?

* Including Bacteriology and Public Health.
† Difficult to estimate, as most of the students are perpetual pupils.
‡ Information not supplied.

JUVENILE SMOKING.—The Plymouth School Board has issued a circular to all the teachers drawing attention to the moral and physical evils resulting from juvenile smoking and urging them to do all in their power to discourage the practice.

VACCINATION PROSECUTIONS.—At the meeting of the Trowbridge and Melksham Board of Guardians held on Oct. 17th it was decided that all vaccination defaulters were to appear before the guardians, and if they gave a reasonable excuse why vaccination should not be performed no proceedings would be taken, but if no reasonable excuse could be given the vaccination officer was to be instructed to prosecu[illegible].

THE LANCET.

LONDON: SATURDAY, OCTOBER 27, 1900.

WE have this year, as we have in previous years, called attention to the inaccuracy of the Medical Register. We recur to the subject at this season, when the date of publication of the Medical Register for 1901 is approaching, in the hope that the General Medical Council will use every means in its power to make the official roll of the profession correct and reliable—a task in which it is the duty of all medical men to give assistance. For we have always allowed that the responsibility for the inaccuracy of the Medical Register lies in the first instance on the side of the practitioners who do not keep the Registrar adequately informed concerning their addresses and qualifications. The Registrar prints yearly "important notices" at the beginning of the Register urging on practitioners the duty of giving immediate notice to the Branch Registrar by whom they were registered of any changes in their addresses and the advisability of registering their full qualifications. But his words go unheeded. For many years medical men agitated for an authoritative or official list that the public might find in it the correct names and styles of all persons duly instructed in the healing arts and might no longer have an excuse for recourse to quacks. Yet now that the machinery exists for the compilation and publication of the list many medical men take no steps to have their names correctly entered upon it. We recommend the penalisation of the indifferent in the manner provided for by the Act (*vide infra*). Allowing, as we do, that the blame for a great part of the present unsatisfactory condition of the Medical Register rests primarily with the medical profession, we think that the General Medical Council would be well employed in bringing the fact home to the profession.

But in the case of a large group of errors the fault cannot be said to be with the medical profession—we refer to the inclusion of the names of dead persons upon the Register. A dead man cannot communicate with the Registrar and the General Medical Council might here take the initiative. The following table is a list of dead persons whose names are to be found upon the official list of the medical profession for 1900. The list does not claim to be exhaustive—indeed, the Medical Directory for 1900 contains in its obituary list for the year 58 other names the owners, or late owners, of which figure in the current Medical Register as living—but it is as nearly correct as we have been able to make it and the General Medical Council is welcome to the information which the table contains. In the third column are references to the publication of obituary notices of the deceased. In many cases similar notices have appeared also in the *British Medical Journal*. We do not think that our contemporary's files or our own can be regarded as inaccessible to the General Medical Council; and after the death of a member of the profession has been announced in the columns of either journal it might be well if the Registrar obtained

Names of Deceased Medical Men retained on the current Medical Register (1900).

Name.	Date of death.	Reference to published obituary.
Adam, Alexander	November, 1893.	Australasian Medical Directory, 1896.
Aherne (or Ahern), Patrick Leonard	Feb. 10th, 1898.	THE LANCET, Feb. 19th, 1898, p. 542.
Arnold, Charles Arthur ...	August 22nd, 1894.	THE LANCET, Sept. 8th, 1894, p. 613.
Baber, John	May 4th, 1894.	THE LANCET, May 26th, 1894, p. 1344. *Obituary notice.*
Blumenreich, Theodore Meyor (or Mayer)	Sept. 28th, 1892.	Australasian Medical Directory, 1896.
Brown, Fergus Malcolm...	May 31st, 1893.	Australasian Medical Directory, 1896.
Burroughs, Thomas John	Dec. 23rd, 1892.	THE LANCET, Jan. 14th, 1893, p. 119.
Campbell, Loftus	July 26th, 1894.	Australasian Medical Directory, 1896.
Clarke, Horatio St. John..	June 30th, 1895.	Australasian Medical Directory, 1896.
Edger, Robert Phillipson (or Philipson)...	Sept. 21st, 1892.	THE LANCET, Oct. 29th, 1892, p. 1027. *Obituary notice.*
Fadelle, Alfred	March 28th, 1893.	THE LANCET, June 17th, 1893, p. 1475
Fitzgerald, Charles Egerton	Dec. 11th, 1898.	THE LANCET, Dec. 24th, 1898, p. 1745. *Obituary notice.*
Hanham, Frederick William	March 13th, 1898.	THE LANCET, March 26th, 1898, p. 904.
Horne, Robert Main... ...	March 31st, 1896.	THE LANCET, April 11th, 1896, p. 1035. *Obituary notice.*
Jackson, Chas. Granville	1894.	Australasian Medica Directory, 1896.
Jee, Henry Christian ...	Sept. 30th, 1893.	Australasian Medical Directory, 1896.
Johnson, Edmund Charles	Jan. 3rd, 1895.	THE LANCET, Jan. 12th, 1895, p. 125. *Obituary notice.*
Jones, Shadrach Edward Robert	July 15th, 1896.	Australasian Medical Directory, 1896.
Leslie, Louis Gordon ...	September, 1892.	Australasian Medical Directory, 1896.
Newbigging, Robert Pope	Oct. 5th, 1896.	THE LANCET, Nov. 9th, 1895, p. 1201.
Noonan, Francis Felix ...	March 9th, 1896.	Australasian Medical Directory, 1896.
O'Connor, Morgan	August 13th, 1895.	Australasian Medical Directory, 1896.
Pughe, T. Wm. O.	Oct. 8th, 1893.	THE LANCET, Oct. 14th, 1893, p. 963.
Roeckel, Waldemar Joseph	Sept. 10th, 1894.	THE LANCET, Nov. 17th, 1894, p. 1191. *Obituary notice.* Australasian Medical Directory, 1896.
Sellar, Alexander	April 14th, 1895.	Australasian Medical Directory, 1896.
Sheldon, Edwin Mason ...	1893.	THE LANCET, Dec. 2nd, 1893, p. 1417. *Obituary notice.*
Sutherland, George Whitefield	March 3rd, 1896.	Australasian Medical Directory, 1896.
Taylor, William Marshall	July, 1893.	Australasian Medical Directory, 1896.
Walker, John Burnley ...	1894.	THE LANCET, Jan. 20th, 1894, p. 184. *Obituary notice.*
Webb, Chas. Louis	Feb. 22nd, 1896.	THE LANCET, Feb. 29th, 1896, p. 597.
Webb, Sidney Roberts ...	April 12th, 1895.	THE LANCET, May 4th, 1895, p. 1156. *Obituary notice.* See also THE LANCET, March 13th, 1897, p. 745.
Welch, Henry	April 2nd, 1894.	THE LANCET, April 21st, 1894, p. 1038. *Obituary notice.*
White, Francis Buchanan White	Dec. 3rd, 1894.	Dictionary of National Biography, vol. lxi. THE LANCET, Dec. 22nd, 1894, p. 1519. *Obituary notice.*
Williams, David William	September, 1893.	THE LANCET, Sept. 30th, 1893, p. 849.
Wilson, Frederick Wm. ...	1894.	THE LANCET, Feb. 25th, 1899, p. 547.

corroboration of the correctness of the information by sending a registered letter to the latest official address of the practitioner in question. The Medical Act (1858) Clause XIV. runs as follows:—

XIV. It shall be the duty of Registrars to keep their respective Registers correct in accordance with the provisions of this Act, and the orders and regulations of the General Council, and to erase the names of all registered persons who shall have died, and shall from time to time make the necessary alteration in the addresses or qualifications of the persons registered under this Act; and to enable the respective Registrars duly to fulfil the duties imposed upon them it shall be lawful for the Registrar to write a letter to any registered person, addressed to him according to his address on the Register, to inquire whether he has ceased to practise, or has changed his residence, and if no answer shall be returned to such letter within the period of six months from the sending of the letter it shall be lawful to erase the name of such person from the Register; provided always that the same may be restored by direction of the General Council should they think fit to make an order to that effect.

It seems to us clear that it is the duty of the General Medical Council to communicate with persons whose names are on the Register and whose deaths are announced in the medical journals, in the *Times* and other important daily papers, in the Dictionary of National Biography, and in a semi-official publication like the Australasian Medical Directory. Nor can we see that to do so would entail much work upon the secretarial staff of the Registrar. How the Registrar is to comply with the Act by sending a registered letter to the following gentlemen we admit that we cannot suggest:—

Duncan, James.	Williamson, Walter.
Foster, Thomas.	Montgomery, R., L.R.C.S., 1829.
Forbes, William.	Osborne, John Hy.
Blanchard, David.	Nussey, Thomas John Hartley.

for their only address on the Medical Register of 1900 is "Australia." We grant that the Registrar is in a difficulty, but the difficulty has been made by the General Medical Council in accepting such loose entries. The door to flagrant impersonation that has thus been opened wide should be closed immediately.

There is another class of names upon the Medical Register where we think the Registrar might well send the registered letter in accordance with the Act. The following names in the Medical Register of 1900 (and, again, our list does not claim to be exhaustive) are those of gentlemen who if they are still alive must be so advanced in years that they could only take an inquiry into the matter as a compliment:—

Lawson, George McF., M.D.Edin., 1818.	Toulmin, Abraham, M.R.C.S., 1817.
Moon, Robert Henry, L.S.A., 1821.	Smith, Charles, L.S.A., 1818.
Tinn, George, L.S.A., 1824.	Murray, Thomas, M.D. Edin., 1823.

If Mr. TOULMIN and Dr. G. MCF. LAWSON are still alive they must be well over 100 years of age, in which case we congratulate them upon their longevity.

AT this time of the year, when a number of young students are entering upon studies which will, they hope, render them responsible in the future for the health of their fellow-citizens, it is as well to take a broad view of the medical student's career and with a bird's-eye glance over the whole field to try to notice a weak spot. The satisfaction with which we may thus regard modern medical education is very great if we compare it mentally with that of even only a few years ago. When we make this comparison, however, and particularly if we compare our own day with that of, say, our great-grandfathers, one reflection arises that may ruffle our general content. Are we to-day taught practically enough? With the enormous strides in scientific education, with the additional knowledge in physiology, chemistry, and bacteriology that our students now acquire, does there exist a proportionate increase of skill in the actual practice of their profession. To discuss this question in full would be too extensive an undertaking and we propose to limit ourselves to the consideration of one important art which in practice almost every medical man must at some time or other be called upon to exercise. We allude to the administration of anæsthetics. There is probably no branch of his profession in which the average medical man, whether in town or country, is more likely to be required occasionally to exercise such skill as he may have, and there is certainly none in which a deficiency of skill may more easily have unpleasant if not disastrous results. Medical practice is carried on largely with drugs that cannot do harm within pretty wide limits of dosage, surgical practice devolves chiefly upon those whose skill is in constant exercise, but anæsthetisation where only potent and dangerous materials are of use is demanded at times of every medical man.

There can be no case, then, in which knowledge and experience are more desirable in a medical man than in this, which is both of a critical nature and of common occurrence. In large centres, of course, there are plenty of men who devote themselves to the administration of anæsthetics whose wide experience reduces risks to a minimum and whose services are available for surgeons and general practitioners. But, taking the country as a whole, a large proportion of anæsthetics are administered by those whose experience in the matter must of necessity be occasional only. For such men to be proficients in the art is obviously impossible. For them to be safe exponents of it it is essential that they should have been well trained in its principles and in its practice. Do the vast majority of medical students obtain such a training? That it is available for them a mere glance at the prospectuses of the chief medical schools assures us. At almost all of them there are anæsthetists of experience whose duties are not solely to administer anæsthetics for the surgeons but also to deliver lectures and to instruct students practically. Unfortunately the mere fact that excellent opportunity and teaching are at hand is not always enough to induce a student to learn. It is not that he is inherently indifferent. The average student of to-day is keen and eager in all that pertains to his medical education, but the measure of his keenness must largely be the examination value of the subject on which it is exercised. The immediate object of his existence is to pass examinations—to "get qualified" is the *Ultima Thule* of his present ambitions. The market value of a sound knowledge of anæsthetics as an asset at the examination hall is practically *nil*. The subject is not even one for which it is essential that he should be "signed up." Now, there follows from this a corollary which still

further lessens any eagerness which a student may feel towards proper education in anæsthetics. Since the examining bodies apparently think little of the importance of the administration of anæsthetics the medical schools, which naturally take their cue from these bodies, cannot insist upon much attention to the subject. Consequently, at many medical schools there is no formal necessity for a student ever to obtain instruction in the matter. At many schools a student must give evidence of proficiency in administering anæsthetics before he is allowed to hold a resident appointment, but even this is not everywhere the case. Moreover, the number of students who become resident officers is necessarily but a small proportion of the whole. At hospitals which have no medical schools attached to them it must often happen, as it assuredly does in private practice, that a man administers an anæsthetic without ever having watched such an administration with care or with the purpose of learning therefrom the dangers to be avoided and the principles to guide him on the path of safety. There is one inherent difficulty in the proper teaching of the way in which to give anæsthetics to all students. This lies in the practical nature of the matter. A student may attend all the lectures available and read all the books, but until he has himself given an anæsthetic he can never become a safe anæsthetist. Now it is impossible for all students at a large school actually to give anæsthetics, under the supervision, of course, of their teachers, except to a very small extent. Even this small extent, however, is of great importance, for if the principles have been already acquired a student need not many times administer anæsthetics under skilled supervision to become a safe administrator, in all ordinary cases at any rate. In cases where a patient about to undergo an operation is seriously ill, or where the nature of the operation offers particular difficulties to the anæsthetist, then a man of only occasional experience in the matter should not undertake the administration, unless, of course, he alone is available.

Having regard, then, to the importance of proficiency in the use of anæsthetics in the after-welfare of the great majority of medical students we strongly urge them to avail themselves of the opportunities offered at their schools. May we suggest to those in authority over them that perhaps regulations requiring some attention to the matter from all students, whether candidates for resident appointments or not, would be of advantage to the medical practitioner of the future and an additional guarantee of the public safety.

DR. OSLER has found time, in spite of all his labours in the study and practice of medicine, to go more deeply than most previous historians of LOCKE into an investigation of the relations of that great man to medicine. LOCKE'S work in philosophy and in the vindication of liberty has been so important that we have been too apt to overlook and to forget his connexion with our profession. It has been left for a physician living more than two centuries after him, and himself at the very front of modern medicine, to remind us of that connexion forcibly. By careful study of manuscripts in the British Museum and of notes and journals wherever accessible Dr. OSLER has now shown that in LOCKE English medicine had potentially another SYDENHAM, and that the well-known intimacy between these two great men was, as was the friendship of JOHN HUNTER and EDWARD JENNER, based on like-mindedness and on the rich possession by both of large endowments of common-sense and the faculty of close and careful observation. The love of medicine, if not the first love of LOCKE, was a very early one and was one that never forsook him. The distractions were many. Love of letters, foreign travel, intimate relations with the foremost statesmen and men of science of his day, study of the moral and mental constitution of men, delicate health—none of these ever really estranged him from an interest in medicine, though they drew him finally from the practice of it. And we are proud to think that the world is much indebted to his medical knowledge—or, if we may so say, to his medical mind—for the common-sense which characterises his philosophy and which is apparent in every page of his greatest work. Dr. OSLER'S address is so full and so original as a contribution to the study of LOCKE as a physician that we may assume that it will be carefully studied by the medical profession. We shall do well to follow the example which Dr. OSLER sets us and individually to study for ourselves the working of such a mind as LOCKE'S in the matter of medicine. We shall all be better practitioners for studying his reasonings and experiments, remembering that he not only followed and appreciated SYDENHAM but that SYDENHAM appreciated him and discussed with him the great problems of disease in individual cases, including LOCKE'S own, in respect of which he wrote to LOCKE affectionately, "and with the same intention of mind as if my life and my son's were concerned therein."

In the few remarks which we make by way of emphasising our gratitude to Dr. OSLER and our own pride in the fact that his hero really and historically belongs to the medical profession, we do not follow so much the line of Dr. OSLER'S address as indicate in a few sentences the points which appear to us to be of greatest interest in LOCKE'S medical character and history. It is important to notice that, like many other great medical men, he was for the greater part of his life more or less a patient. He had a frail body. He suffered from what some of his biographers called "consumption and asthma." In the middle of his life his illness compelled his absence from England for years. Doubtless this made him more sympathetic and helpful as a physician. No complaint was too humble, no remedy too simple, for his thoughtfulness. "Costiveness," equally with consumption, exercised his reasoning faculty and led him to the application of physiological principles for its relief supported by personal experience. Notwithstanding that he was so delicate he contrived to keep his frail tenement together and in pretty active occupation to the age of 72 years and to leave the world richer in wisdom and freedom and virtue for all time. He was also successful in preserving his historical patient the first Earl of SHAFTESBURY in spite of his "imposthume," or, as we see it, his hydatid of the liver, the history of which extended over years, and he conducted him to recovery with a minuteness of care which is well illustrated in the medical notes and journals unearthed by Dr. OSLER. Secondly, LOCKE was no specialist. His study of medicine

was broad, and it included the cases of men, women, and children. His book, "Concerning Education," shows how deep was his interest in health and in those principles of health or hygiene which need to be intelligently appreciated by those who have children or the care of youth. Whether his patient were the Earl of SHAFTESBURY, the kitchenmaid of the Earl, or one of the children of his friend "EDWARD CLARKE of Chipley, Esq.," or Lady NORTHUMBERLAND, he brings to bear on all their cases his experience and his common-sense. Dr. OSLER justly observes on the care with which he reported and recorded cases. The notes of the Earl of SHAFTESBURY'S case could scarcely be exceeded for their detail in our present time, save in so far as improved means of investigation have made a difference.

Most important of all in LOCKE'S system of medicine was the use of strong common-sense and of all the aids that a study of the fundamental sciences could give him. His friendship with BOYLE, with the other founders of the Royal Society, and with the scientific set—"the invisible college"—in Oxford, at once showed and encouraged the openness of his mind to all improvements and enabled him to do great service to his patients and to vindicate his friends, especially SYDENHAM, against the almost intolerable hostility with which their improvements in medical practice were met by many of their contemporaries. He was the forerunner of ACLAND and those of later years who have saved Oxford from being lost in the mazes of theology and who, while retaining the principle of reverence, have raised it above all mere human dogmatism and conceit. His practice of physic seems, for his day, to have been eminently sensible. He was a sanitarian and took great pains to study the public health as shown in the mortality bills of great cities at home and abroad. He had a few prejudices that would shock some of our modern physicians—such as that against certain kindly fruits and that in favour of exposing children to cold, with imperfect shoes that should keep their feet continually damp and uncomfortable—but those who lived according to the general trend of his medical rules would live well. He enjoined one meal of meat a day and plenty of bread ("imputing a great part of our diseases in England to our eating too much flesh and too little bread"), and extreme moderation in wine and strong drink, allowing only small beer, and a hard bed. Physic was to be used sparingly and nature was to be much trusted. These are instructions rather for the care of children, but they are meant to lead up to a hardy and virtuous manhood to be possessed on the same principles. For LOCKE held that "the great Principle and Foundation of all Vertue and Worth is placed in this: That a man is able to *deny himself* his own desires, cross his own Inclinations, and purely follow what Reason directs as best, tho' the appetite lean the other way." Such were the medical views of the great philosopher of the seventeenth century whose general wisdom was such that men like SHAFTESBURY and SOMERS consulted him in the affairs of State as SYDENHAM and MAPLETOFT consulted him in questions of medicine.

IN an article in THE LANCET of Oct. 20th (p. 1128) Mr. R. HAMILTON RUSSELL, F.R.C.S., of Melbourne raises, not for the first time, a very important practical question—no less than this, whether every child, except young infants, the subject of inguinal hernia should not be submitted to operation. What we may call the orthodox view is that the great majority of such cases are cured by the persistent use of a well-adjusted truss. All are agreed that by this treatment continued over a period of years the parts may become so altered that even under severe strain no hernial protrusion will occur. And it is contended that this fact justifies the use of the word "cure." It is maintained that under the pressure of the truss the sac is kept emptied, that its natural elasticity is able to exert its effect in reducing its size, and that the pressure may either set up an adhesive inflammation in the sac and so obliterate it, or that it acts as a local stimulant and excites that nutritive change which normally obliterates the funicular process of peritoneum—a change which has been arrested in cases of hernia. Under the empty condition of the sac the fibrous structures around it are freed from distension and displacement and become strong and efficient supports of the inguinal canal.

Mr. RUSSELL inferentially admits that the obliteration of a hernial sac may occur in a young infant, and, so far as we are aware, no surgeon of experience has yet urged that such an event never takes place. It would seem certain that nature has the power to accomplish quite soon after birth the obliteration of the funicular process which should have been perfected before birth. This is a mere delay in the normal development of the parts. A very large number of infants are found to have inguinal hernia or hydrocele in an unobliterated funicular process of peritoneum, and the large majority of them appear to undergo cure without surgical operation. Mr. RUSSELL'S contention is that while this may happen during infancy it never occurs in childhood or later. If the natural closure and shrinking of the tube of peritoneum is arrested it is not effected by the pressure of a truss or by any means which merely keeps the sac empty for a period of months or years. The evidence on this point is partly clinical and partly pathological, and is certainly not conclusive. Clinically we find that boys and youths, after wearing a truss for many months or a year or two, often show no trace of their former hernias, and even after all the tests of straining that are usually adopted there is no protrusion into the inguinal canal. If the truss is discontinued they are able to pursue an active life without re-descent of the hernia. But in a certain number of these cases a sudden descent of the hernia occurs at some subsequent period. We are all conversant with cases where after two, three, or more years of freedom from hernia it suddenly recurs, showing that the sac has not been obliterated but is only empty and probably narrowed at the neck. Again, there are very many cases of inguinal hernia which suddenly appear during adolescence or early manhood in which there is no ascertainable history of infantile hernia. The sudden descent of the hernia into the scrotum proves that there was a sac ready formed into which the bowel or omentum could drop as soon as it passed the barrier at the neck. The occurrence of what Mr. FURNEAUX JORDAN well-named "water-bottle hydrocele" also shows that a

peritoneal sac may become very narrow at the neck and remain for many years quiescent without yielding any sign of its presence, but yet form a serous sac into which a hernia may possibly be forced. Pathologists, too, know that in patients who give no history of hernia a hernial sac or an unobliterated portion of the funicular process of the peritoneum may be found. We may therefore say that it is indubitable that a potential hernial sac may exist for years without any evidence of its presence, and the mere fact that under the ordinary tests no hernial descent occurs is no proof that a sac does not exist, still less is it a proof that a sac known to have existed formerly has become obliterated by the pressure of a truss.

This, however, does not bring us quite to the position advocated so earnestly and so ably by Mr. RUSSELL. For if men may go on for years with a patent hernial sac, without descent of bowel or omentum into it, it is evident that there is another element in the causation of hernia than the mere presence of a sac. This seems to us the weak point in Mr. RUSSELL'S case. The neck of the sac may become so narrowed that this affords a great if not insuperable barrier to the descent of a hernia, and the valvular action of the inguinal canal may be so efficient that nothing can escape down the canal even although there is a patent sac. We consider that Mr. RUSSELL does not attach sufficient importance to the defects in the muscular and aponeurotic walls of the inguinal canal which certainly play some part even in the hernia of children. While, therefore, we think that most surgeons will quite concur in his view that trusses do not often cure hernia (after infancy perhaps) in the sense of leading to an obliteration of the peritoneal sac, the evidence is too strong to be set aside that in many cases there is no future descent of the hernia into the still patent sac. And if this is so, many surgeons will hesitate to urge operation upon all these patients but will wait until the hernia has again declared itself. There is, however, no finality in surgery, and Mr. RUSSELL has done good service in calling attention to a very interesting and important subject.

Annotations.

"Ne quid nimis."

BRITAIN'S FAITH IN HER SANITARY SYSTEM: AN APPRECIATION.

IN view of the limitation of our knowledge as to the behaviour of bubonic plague it is not our intention to take upon ourselves the mantle of prophecy and to predict that, even for the present, the plague has receded from our shores. Our respect for the unknown future precludes any such liberties. The history of plague warns us that its waves may have, like the cardiac rhythm, their periods of systole and diastole, and that the disease may, in its general progress, wax and wane. For aught we know to the contrary, material from one or another of our ports may be at this moment undergoing examination in the laboratory, and the passing away of an inoculated guinea-pig may, before these lines are read, have been instrumental in announcing to certain signatory powers, in accordance with the provisions of the last Venice Convention, that fresh cases of pestis minor or major are with us. But whatever the port medical officer of health or the bacteriologist may have in store for us we are concerned at this moment with a little appreciation of the past. The public is not accustomed to enter into a very detailed analysis of its feelings, be they of apprehension or of security, but the presence or absence of such feeling is sufficiently obvious in the public press when a national danger threatens. With respect to plague prevention there is only one conclusion to be drawn as to the public opinion of this country and that is that it places implicit confidence in the system by which the introduction of exotic diseases is checked; indeed, there are signs that the public may ere long look with only little more anxiety upon an occasional case of cholera, yellow fever, or plague, than upon one, say, of small-pox. This faith in our system has been gradually and imperceptibly brought about by the admirable manner in which the more or less desultory bombardment of our coasts by plague and cholera within recent years has been met. It has been met by a system which these islands may well view with satisfaction, and which is being slowly accepted by European Powers, and, in principle at least, by countries outside Europe. The proper appreciation of this system by Britain and the partial recognition of its merits by other Powers, have been very largely due to the indefatigable efforts of successive medical officers of the Local Government Board, and more particularly, perhaps, to the powerful advocacy of the late Sir Richard Thorne at the several international congresses at which he represented Great Britain. For the present organisation of the machinery our thanks are due to the foresight and energy of the Central Health Department, the medical staff of which devotes no small amount of thought and action towards its share in administration. But the smooth working of the machinery, under the system of local government which obtains in Britain, would be practically impossible without the cordial support of the port sanitary authorities, and in this connexion it is gratifying to record the admirable example which has been, and is being, set by the liberal and rational spirit in which the sanitary authorities of ports such as London, Liverpool, Manchester, Southampton, and Plymouth have met their responsibilities, and have, where necessary, coöperated with the Government departments concerned with the movements by sea of our small but migratory army. It is to our port medical officers throughout the country, embracing in this term those who serve as assistants or inspectors, that no small meed of praise is due. Only those whose duty it has been to board and to examine vessels in all conditions of weather, to harangue obstructive skippers in languages not their own, or to diagnose a suspicious case of plague in the stuffy and ill-lighted forecastle of a small steamship, can appreciate the enormous responsibilities of the port medical officer or estimate what the country owes to him. So, too, those who are unfamiliar with the difficulty of dealing with an outbreak of disease without means of proper isolation and disinfection can have no idea of the anxieties with which an inland medical officer of health faces the presence of a disease like bubonic plague in his district. Fortunately, in a sense, we shall have now before us the excellent example set in Glasgow by its able medical officer of health, Dr. A. K. Chalmers; and the near future may show the desirability of carefully studying the Glasgow methods in order that certain sanitary authorities south of the Tweed may ascertain how their own districts would fare in presence of an invasion such as has visited Glasgow. That outbreak teaches us the immense importance of seeking out suspicious cases and of isolating them until all risk be past as well as the necessity for isolation provision and accommodation for "contacts." The sooner the more

negligent of our authorities see to these points the better for them and for the country.

A NOBLE DEATH.

WE are rightly proud of the fact that the medical profession numbers many heroes among its ranks. It is no uncommon thing for a medical man to lay down his life owing to the exigencies of his profession; but the recent death of Mr. Alexander Stewart Brown, F.R.C.S. Edin., which took place on Oct. 17th, deserves special recognition owing to the circumstances which led up to it. A week or two ago Mr. Brown met with a carriage accident in which he injured his spine. In order to recruit his health he set out for the South of France and on arriving at Boulogne he was just getting into the train when he saw a young man with whom he had travelled from London fall off the quay side into the water. Mr. Brown at once waded into the water nearly up to his neck, got the man out, and finding that he was unconscious, wet as he was, proceeded then and there to perform artificial respiration. After two hours' hard work Mr. Brown was successful and he continued his journey to Paris. When there, however, he became so ill that he thought it best to return home, which he did, but succumbed to pneumonia shortly after his arrival. We cannot call the circumstances of his death sad, for if there is one desirable manner of death it is that which is incurred in saving the life of a fellow-creature, but none the less we offer our sympathy to Mr. Brown's relatives and friends. He was a well-known figure in the municipal life of Lewisham and was also a prominent Freemason.

MEDICAL MEN AND THE MORPHIA HABIT.

THE *Medical Temperance Review* for October contains a short paper on Morphinism among Physicians. If we are to credit the writer the habit of taking opium and allied drugs is more or less prevalent among from 6 to 10 per cent. of medical men. The statement is a vague one and no precise data are advanced in support of it, though the reader is referred to a former report dealing with this subject. It would be better for all purposes if a paper of this kind, which contains only the most general assertions, were elucidated by verified details; lacking these its value cannot be estimated or even recognised. It would be idle to deny that medical men, like all other men, are occasionally liable to propensities which do not make for their advantage and from which not even a knowledge of the action of drugs can always deliver them. On the other hand, indefinite assertions like those contained in this brief paper cannot be accepted without those proofs which are absent from it. That accidental opium-poisoning has repeatedly cut off a useful professional career is unfortunately true. Little more than a week has elapsed since a medical practitioner died at Bolton, Lancashire, from the effects of an excess of opiate which was taken to procure sleep. But a morphia habit which controls one in every 10 or 20 men is certainly not known to exist in the medical profession. Such a habit, if it does exist, must be quite exceptional. It is probably unknown among practitioners engaged in active duty. We observe that the writer above-mentioned speaks of the morphia habit as if it were merely a disease and nothing more. It has become customary with many persons to refer to this and other aggravated forms of self-indulgence in similar terms. They are regarded as vices which have ceased to give pleasure, as master-passions which are hated, but which will not be denied. Against this tyranny the will is supposed to have lost its power of resistance. There are doubtless cases of habitual excess the character of which is fairly so described. We are of opinion, however, that too much has been made of such cases. It cannot be, and it is not, true that a vice even after long indulgence is always master and cannot be withstood. It is equally certain that apparently confirmed inebriates and morphia-takers have been enabled to release themselves and have remained in a state of freedom. The force of habit whether innocent or hurtful is usually very great, but this by no means implies that it must necessarily even after long duration annihilate the other controlling force of will. To what extent it may have done so remains in many cases an unsolved problem and in this very uncertainty lies the germ of hope. Unless we recognise this patent fact, all prospect of reform, all reason for the efforts of temperance even may be abandoned. No amount of therapeutics will make a bad man good or a drunkard abstemious unless he is allowed credit for such will power as he has and is assisted or obliged to use it for his moral reclamation. While therefore we do not deny the existence of the states known as dipsomania or morphinomania, we deprecate as pessimistic and subversive of rational treatment the too general tendency to apply these and like terms to all aggravated cases of self-indulgence.

THE INSANE JEW.

IN the October number of the *Journal of Mental Science* Mr. C. F. Beadles of Colney Hatch Asylum gives an account of the Jew in so far as he is liable to insanity, the records of cases which form the basis of his paper being taken from the London County Asylums and from other sources. An examination of 1000 cases has revealed certain salient features regarding the insane Jew. First and foremost is the abnormally great preponderance of general paralysis amongst the men. Thus, reckoning on the admissions, it is found that over 21 per cent. of all male Jews admitted were the subjects of general paralysis, whereas the general proportion of general paralytics in all males admitted to asylums in England and Wales is (according to the report of the Commissioners in Lunacy for 1899) 13 per cent. Among the Jewesses the proportion of general paralysis is that of the females admitted generally throughout the country. It is thus evident that amongst the Jewish male admissions general paralysis is 60 per cent. more frequent than among other English and Welsh patients admitted to county and borough asylums. Mr. Beadles states that inquiry as to the relative prevalence of syphilis in the Jewish community is beset with difficulties, but that there is ground for belief that "syphilis is fairly frequent, though doubtfully to the same extent, as amongst the population in this country at large." Considering the fact that syphilis plays a most potent part in the production of general paralysis the need of accurate statistics is obvious. Drunkenness is said to be "less common among the poorer Jews than is the case amongst the lower classes of English. On the other hand, sexual excess figures in high ratio as an assigned cause for insanity (among Jews)." It is shown that the mental strain resulting from the worry, anxiety, and excessive zeal in acquiring riches, plays an important part in bringing about neurasthenia and mental breakdown in the Jew. In hospital and private practice it is often found that the Jewish male is neurotic and that the Jewess is a sufferer from hysteria. "Hereditary insanity probably figures high in the race, but it is impossible to get at the proper proportion." The average age at which Jews become insane is distinctly earlier than in non-Jews, and this holds good for both sexes. The average age of admission for Jews into the London County Asylums was 37 years and that for Jewesses was 36 years, whereas the average age of all admissions into the London County Asylums in 1898 was 43 years for both men and women. The ages at death bear somewhat similar proportions. Male Jewish patients died at the age of 44 years and Jewesses at 47 years, whereas the other London County

Asylum male patients died at the age of 51 years and the female patients at 55 years. Jewish patients discharged from asylums relapse twice as frequently as all other patients. While general paralysis was relatively common among Jewish males puerperal insanity was prevalent in a high proportion among the Jewesses who were admitted to asylums. "In over 15 per cent. of all Jewish female individuals admitted to the Colney Hatch Asylum the insanity was traceable to, and associated with, child-bearing," whereas in non-Jewish patients the proportion was 6·18 per cent. in all the London County Asylums. Mr. Beadles finds an explanation of this in "the neurotic temperament of the Jewish women, the early age at which marriage takes place, together with impaired nutrition from unhealthy occupations and surroundings in overcrowded centres." Over 80 per cent. of Jewish patients or their parents were found to have been born abroad. They mainly come from Russian Poland or from German States. The impoverishment and stress of living which many of these have experienced before reaching this country have helped to wreck their nervous systems. It is also concluded that Jewish patients furnish the most troublesome, degraded, and refractory of chronic and incurable cases in asylums.

DISINFECTION OF THE HANDS.

CONTINENTAL surgeons have taken up the question of disinfection of the hands very zealously, but it cannot be said that as yet any definitive solution of the attendant difficulties has been arrived at or even that methods which yield good results with one observer have been found equally efficacious by others. In a paper published in the *Archiv für Klinische Chirurgie*, 1900, p 483, Dr. Sarwey has given an account of some experiments which he and Dr. Paul have conducted with regard to several of the most prominent systems. Investigators vary, they found, not only as to their modes of procedure, but also in the way in which they test the efficacy of the measures adopted. Hägler of Bâle, for instance, rubs the disinfected hands with spun silk which is then tested for germs, while Kümmell steeps the extremities themselves into the nutritive media. The method of control preferred by the experimenters is that of Fürbringer, which consists in thoroughly scraping the hands back and front as well as between the fingers and round about and under the nails with sterilised pieces of wood of various shapes and sizes. Before proceeding to examine the more complicated systems of disinfection of the hands Dr. Sarwey and Dr. Paul tried the effects of vigorous brushing with soap and hot water, the brush, the soap, and the water being sterilised and renewed six several times, and the whole operation being prolonged over 35 minutes. A scrubbing of this severity, we might *a priori* suppose, should suffice for the removal of the most tenacious of microbes, to say nothing of the subject's epidermis, but Pétri's boxes sown subsequently with hand-scrapings were nevertheless found to be swarming with germs. The system of Ahlfeld, which is based on hot water and alcohol, was then essayed, with a somewhat more satisfactory result; but although the germs were found to be diminished in "notable proportions" they were not completely removed. The system advocated by Mikulicz was next investigated. According to it the hands to be disinfected are rubbed assiduously for five minutes with an alcoholised soap, all greasy matter having previously been got rid of by means of pumice stone steeped in alcohol. After a series embracing 12 repetitions the conclusion arrived at regarding this process was that although, as in the preceding method, the germs were greatly reduced in number there was always a more or less considerable residuum left behind. Lastly, the "mechanical disinfection" of Schleich was put to the test. The chief peculiarity of this system is the entire abandonment of the nail-brush, reliance being placed exclusively upon a special kind of soap which is made with wax and powdered marble (*wachsmarmorstaubseife*). It is claimed by the inventor that after 15 minutes of energetic friction with this compound in sterilised water (constantly renewed) the hands to be disinfected are freed from at least 97 per cent. of their germs, but Dr. Sarwey and Dr. Paul were unable to obtain anything like so good a result. On the contrary, notwithstanding their utmost care, so abundant were the germs which they found remaining that it was quite impossible to look upon the hands that had been operated on as sterilised. The explanation of this regrettable divergence of opinion is doubtless to be found in the mode of control adopted. Schleich used platinum rods to collect germs from the main parts of the hand only, dipping the rods when charged into gelatin tubes which were kept at the ordinary temperature of the room; whereas Dr. Sarwey and Dr. Paul, adhering to Fürbringer's method of collection as above described, made their cultures on agar in Pétri's boxes which were kept at a temperature of 99° F. On the whole, the conclusion to be drawn from these interesting experiments would seem to be that alcohol and soap with hot water are capable of largely reducing the number of the pathogenic germs which are located on the hands, but that as yet no method of ensuring absolute sterilisation has been devised.

UNREGISTERED PRACTITIONERS AND DEATH CERTIFICATES.

AN inquest was recently held to inquire into the cause of death of a man who had died at Dewsbury after being attended by a person calling himself "Dr. Haworth," whose name is not upon the Medical Register. This gentleman describes himself upon his doorplate as an "M.D. of Canada," and the registrar of deaths had declined to accept his certificate, in which, we believe, the cause of death was described indifferently as "hemorrhage" and "hemorage" of the lungs, the registrar's refusal having as its natural result an inquiry before a coroner's jury. "Dr. Haworth" has addressed to the local press a letter of protest, from which we give extracts, directed against the registrar on account of his action in the matter, and he states that he will follow it with a second dealing with the coroner. He writes:—

"With respect to my late patient's death and the cause why our Registrar did not register it I have yet to learn. I am a duly qualified M.D. and C.M. of Canada ..... Registration in Great Britain is no evidence of qualification, and being unregistered indicates no lack of skill or ability to cure disease or injury. As a matter of fact the finest and most successful physicians in this country are those who have been educated abroad, and hold foreign honours. There is no more cause for our Registrar refusing to register the death of my last patient than the previous ones, and the fact of his having registered four before is of itself evidence that he ought to have registered this. I have seen him on the subject and he says that all future cases will be reported to the coroner. ..... I not being a registered practitioner give a form of certificate used by all medical reformers, and which is received by the Registrar-General as part information of the cause of death. ..... The one reasonable excuse for a Registrar refusing to register a death is its being caused by accident or suspicion of secret murder, or other foul play."

We congratulate the Dewsbury registrar on the resolution which he has announced, and in support of the position which he has taken up rather than with any idea of correcting or convincing "Dr. Haworth," we point out that registration is direct evidence of qualification to pronounce upon the cause of death, while the absence of registration implies the absence of such qualification, if it does not directly prove it; so that a registrar who accepts the so-called certificate of an unregistered practitioner, whether it be given in a form

"used by all medical reformers" or not, undertakes a heavy responsibility. From this responsibility he is free if he confines himself to registering deaths only when they are certified upon the official form issued to registered medical practitioners and to no one else, whereas any such practice as that of treating the certificates of the unregistered as "information" is one against which we protest on the ground that it is dangerous to the public. Again, registration is not to be refused only where there has been an accident or where foul play is suspected, but where there is any doubt as to the cause of death. If "Dr. Haworth" has really "yet to learn" the cause of his certificate not being treated as establishing the cause of his patient's death, we may suggest to him that since the registration of the other deaths he mentions it may have struck the registrar that Canada is not a university, and that the description "M.D. and C.M. of Canada" is consequently somewhat indefinite; while he may upon reflection have come to the further conclusion that certificates which may possibly without illegality be treated by a registrar or by a coroner as containing information may at the same time be destitute of any that a prudent man would rely upon.

THE LATE SIR HENRY ACLAND.

THE remains of Sir Henry Acland were interred at Oxford in a grave beside that of his wife on Friday, Oct. 19th. The Prince of Wales sent a wreath of red roses with the inscription "For Auld Lang Syne," and the company which assembled to pay their last tribute to the deceased *savant* was a very distinguished one. In addition to the chief mourners the Royal Society was officially represented by Lord Lister; Oxford University by the Vice-Chancellor and Proctors; Cambridge University by Dr. Clifford Allbutt; the General Medical Council by Dr. J. F. Payne; the British Medical Association by Sir John Burdon Sanderson, Mr. E. Dening (Stow-on-the-Wold), Dr. C. L. H. Pemberton (Banbury), Dr. W. T. Brooks (Oxford), Mr. T. H. Cheatle (Burford), and Dr. W. Collier (Oxford); the Corporation of Oxford by the Mayor, aldermen, and councillors; the Oxford Union Society by the President, Mr. H. T. Baker of New College; and the Oxfordshire Natural History Society and Field Club by Mr. G. Claridge Druce. Amongst others present were Sir Richard Douglas Powell, representatives of the Oxford Colleges, and many representative men in all walks of life. At the conclusion of the first portion of the service, which was held in the cathedral, a procession was formed and the body was conveyed to the cemetery.

A CASE OF SO-CALLED "BROWN-SÉQUARD'S PARALYSIS."

DR. RICHARD WOODS of Philadelphia reports in the *American Journal of the Medical Sciences* for August an interesting case presenting most of the symptoms of unilateral lesion of the spinal cord described by Brown-Séquard, the symptoms being so well marked as to make the diagnosis certain, although the patient came under observation more than one year after the injury. The history was as follows. In January, 1898, the patient while leaning over a railing was struck forcibly in the back of the neck with a knife. He fell immediately to the ground and on attempting to rise he found that he could not raise his left leg or left arm. He was dazed but suffered no loss of consciousness. On admission to hospital there were the above symptoms, the temperature, pulse, and reflexes were normal, and he had incontinence of urine. In the fourth week he noticed some restoration of the power of movement in the left hand and during the following week in the left leg. He continued to improve and in the seventh week was able to walk a short distance. The wound in the neck healed by first intention. He was discharged from hospital in two months, being then able to use his left arm slightly and to walk, though in a very uncertain manner, the gait being unsteady and the left leg being dragged in walking. In May, 1899, he went to the Pennsylvania Hospital Dispensary. The knee-jerk was then much exaggerated on the paralysed side, and there was ankle-clonus on the same side. The reflexes in the paralysed arm were also exaggerated. The sensory alterations were very similar to Brown-Séquard's description and were as follows. In the paralysed leg tactile sensibility was increased over the whole limb (hyperæsthesia), while in the non-paralysed leg it was greatly diminished. There was hyperæsthesia to painful stimuli in the paralysed limb, whereas in the opposite limb there was analgesia. Muscular sense was lessened in the paralysed limb but was unaltered in the sound limb. Thermal sensibility was increased in the paralysed limb and lost in the opposite limb. The patient could easily locate a sensory impression in the paralysed limb but could not do so in the non-paralysed limb. In regard to the upper limbs, the alterations of sensibility were similar to those in the legs, with the exception of tactile sensibility which was present on the non-paralysed side, whereas the sensibility to pain was much diminished on the same side. As regards surface-temperature the paralysed leg was much warmer to the touch than the non-paralysed leg, but no change of temperature could be noticed in the arms. The following two points are of special interest. There was loss of motor-power in the arm and leg on the side of the lesion. This was due to the fact that the pyramidal motor fibres were destroyed or severed. There was anæsthesia for all kinds of sensibility (tactile, painful, and thermal) in the leg opposite the side of the lesion. This confirms the original theory of Brown-Séquard that the sensory fibres concerned with those impressions decussated in the spinal cord and passed up along the opposite side of the cord. The loss of muscular sense in the paralysed limb may be correlated with the fact that the muscular sense impressions passed up (along the columns of Goll and Burdach) on the same side of the spinal cord as the pyramidal tract.

LUNACY IN SCOTLAND.

THE forty-second annual report of the Commissioners in Lunacy for Scotland shows that on Jan. 1st, 1900, there were 15,663 insane persons under official cognisance, an increase of 264 over that of the previous year. Of these, 52 were maintained at the expense of the State in the lunatic department of prisons, 2374 were maintained from private sources, and 13,237 by parochial rates. As the average annual increase in the number of pauper patients in the five years 1891-95 was 194, and the increase in the number of pauper patients during 1899 was 235, it will be seen that the latter increase is not a considerable one and that it falls below the increase during the year 1898, which, for causes still unexplained, reached the exceptional figure of 438. Taking, however, quinquennial periods it is found that the average annual increase in the quinquenniad 1895-99 reaches the figure 303 for pauper patients. The number of cases discharged as recovered during the year amounted to 1289 among pauper patients and 250 among private patients. In proportion to the average number resident in establishments during the year, the total recoveries amount to 12·4 per cent. for pauper and private patients inclusive. The total number of deaths among pauper and private patients in establishments during the year amounted to 1099, or 8·9 per cent. as calculated on the same basis. The death-rates varied according to the classes of establishments as follows: in the lunatic wards of poorhouses it was 4·7 per cent., in parochial asylums it was 8·9 per cent., in royal and district asylums it was 9·3 per cent., and in private asylums it was

12 per cent. During the year 186 patients escaped from asylums, and of these all but 20 were captured and brought back within 28 days from the date of escape. Of 93 accidents and casualties which occurred 10 ended fatally, seven of the 10 being due to suicide. During the year 80 private patients were placed in single care and 2703 pauper lunatics were boarded out in private dwellings. The total expenditure for pauper lunatics was £309,356, or £24 2*s* per head.

THE CHARGES AGAINST LONDON HOSPITALS.

A CERTAIN section of the lay press has during the week been attributing ignorance and cruelty of the crudest sort to those responsible for the management, medical and lay, of certain of the London hospitals. Mistakes unfortunately will occur, but those who denounce our metropolitan hospital system are, we are quite certain, ignorant of the number of sick persons who pass through the hands of house physicians and house surgeons and of the proportion of error which results. The proportion is incalculably small, probably less than $\frac{1}{10000}$ per cent. It is unfair as well as grossly stupid to write, as has been done in one or two quarters, as if a certain spirit of inhumanity were innate in hospital management.

ELECTRIC LIGHTING BOARDS.

A VERY decided advance in the incandescent system of electric lighting has recently been made which will add considerably to the convenience and comfort of those using the electric light. By this new method, which is known as he Electric Lighting Board System, an electric lamp may be attached to any part of the wall, ceiling, or table without the impediments of sockets, plugs, holders, and a maze of flexible wiring. To switch on a lamp by this system means simply to stick in, so to speak, two pins into a pin-cushion. The electric board may be let into the ceiling or wall or table or floor, and it is only necessary to "prick in" the lamp at any point to obtain the light. The lamps for the purpose terminate in two pin-pricks in place of the usual points of contact which connect the filament with the main wires. Any number of lamps may thus be stuck in the electric board and in any place and the current thus tapped. Instead of plain lamps, standard lamps may also be used with pin-points projecting from beneath the base. The convenience of this system hardly needs pointing out. Everybody is familiar with the difficulty experienced of getting the electric lamp always in the right position. The difficulty occurs in the operating theatre, but by means of the electric board the lamps can be placed in whatever position is required. They can be inserted into the operating table itself. The same system is adapted to strips or cables and a lamp may be placed at any given point and the current drawn off for lighting purposes. Writing tables, again, may be fitted with the electric board and an electric light may be obtained at any point. Mirrors may have their frames fitted with the electric board and lights may be obtained at any point in a similar manner. By means of the electric board also it is easy to obtain definite designs in electric lamps. Thus a word may be easily portrayed on an electric board by placing the electric lamps in such a way as to form letters. All this may be done without wires, sockets, or holders. Many other interesting and convenient applications will occur to different minds, but, in a word, the system may be described as giving the light exactly where it is wanted without any trouble in regard to mechanical fittings at all. A very interesting demonstration of this new and promising system was given at the show rooms and factory of the Electric Lighting Boards Company, of 18, Dean street, Soho, on Oct. 23rd, when a number of literary and scientific gentlemen watched the new practical experiments with great interest.

THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

THE board of management of this hospital have recently had under their consideration the matters at issue between themselves and the medical staff of the hospital. As a result they passed on Oct. 17th last the following resolution:—

> That, in view of allegations in the public press injurious to the interests of the hospital, it is desirable that an inquiry should be forthwith held into the charges formulated by the medical staff against the domestic condition and management of the hospital, and that the board should request some independent legal authority to conduct such inquiry.

Mr. Burford Rawlings, the secretary-director of the hospital, has written to the *Times* and in the course of his letter arrives at the conclusion that the system of hospital management in vogue at St. Bartholomew's Hospital "in itself disposes of the suggestion that the board [of the National Hospital] have not given full facilities for the coöperation of the medical staff in all matters concerning the medical work of the hospital." We cannot follow Mr. Burford Rawlings's argument, but there can be no doubt of this: if the National Hospital for the Paralysed and Epileptic is to enjoy the public confidence and scientific prestige which it has hitherto enjoyed and to continue its splendid charitable work among a particularly afflicted class of the poor, the board of management and the medical staff must work together. The obvious method for insuring such coöperation is the placing of seats on the board of management at the disposal of the medical staff.

KOPLIK'S SPOTS IN MEASLES.

IN the October number of the *Yale Medical Journal* Dr. W. J. Maroney of Springfield, Massachusetts, publishes a short paper on his experience of Koplik's spots in an epidemic of measles which occurred in the New York Foundling Hospital in March and April. During this period there were 140 cases of measles in the hospital. In 53 cases Koplik's spots were recognised only at the time when the ordinary eruption commenced, but it must here be explained that the large majority of this group of children did not come under medical observation until after the appearance of the eruption. In 51 cases Koplik's spots were recognised 24 hours before the appearance of the ordinary eruption; in all of the 51 cases the temperature was from 99° to 101° F.; in 35 of them there were slight coryza and conjunctivitis. In 20 cases Koplik's spots were recognised 48 hours before the appearance of the ordinary eruption; at this time the patients had slight fever but no coryza. In four cases Koplik's spots were recognised three days before the appearance of the ordinary eruption; these patients had slight fever but no coryza. In two cases Koplik's spots were recognised four days before the appearance of the ordinary eruption; these patients had slight fever but no coryza. In two cases Koplik's spots were observed but there was no eruption; both of these children were very delicate; hyperpyrexia and other symptoms of grave import intervened and death occurred in a few days. In eight cases Koplik's spots were not observed; four of these children were marasmic with very dry mouths; two had aphthous stomatitis covering the mucous membrane. It will thus be seen that in 79 cases Koplik's sign was present before any eruption appeared on the skin. In only two of the 132 cases in which Koplik's spots were observed did the characteristic eruption of measles fail to appear. Dr. Maroney, therefore, considers that Koplik's spots are pathognomonic of measles and enable the disease to be recognised at an early stage. These spots occur on the buccal and labial mucous membranes. They were first described by Flindt in 1884. In 1898 Dr. Henry

Koplik published his account of them in the *Archives of Pediatrics*. He described them as "small, irregular spots of a bright red colour; in the centre of each spot is ..... a minute bluish-white speck. There may at first be only two or three or six such rose-red spots with bluish-white speck in the centre."

"THE CONDUCT OF SANITARY INSPECTORS IMPUGNED."

IN THE LANCET of Dec. 16th, 1899 (page 1681) we mentioned that a book entitled "The Revival of British Agriculture" had been published by Mr. Peter Anderson Graham, who had thought fit to make some very remarkable allegations against inspectors who are appointed to collect samples of food under the Food and Drugs Act. He said that they winked at milk adulteration, sent dairy-keepers previous notice of their intended visits, and received cheques from them. Sanitary inspectors, for their part, promptly resented these imputations. The next issue of THE LANCET (page 1774) contained a letter signed by four sanitary inspectors for the vestry of Chelsea pointing out that the libel was a serious one and that investigation was urgently required. Mr. Graham seems to have maintained an impenitent attitude until he appeared in the Central Criminal Court on Oct. 23rd charged with having published certain alleged libels concerning the sanitary inspectors of England in their capacity of inspectors. The prosecution was instituted by the Sanitary Inspectors' Association. No evidence was offered, for the defendant's counsel said that he expressed regret, withdrew all the statements complained of, and apologised. The jury then returned a formal verdict of "Not guilty" and the defendant was discharged. It was cruel of Mr. Graham to cast wholesale aspersions on a meritorious class of public officials and contumelious of him not to retract the same until he was compelled. And such conduct does harm in another way. Mr. Graham's ignominious collapse will tend to give genuine evildoers a sense of security.

HERPES ZOSTER WITH A GENERAL ERUPTION.

SOME time ago we called attention in an annotation[1] to the "aberrant vesicles of herpes zoster" described by French dermatologists—isolated vesicles found disseminated over the body in cases of herpes zoster and similar herpetic vesicles. In 1898 M. Tenneson, after a careful study of the subject, said that if the entire skin of patients suffering from herpes zoster were examined every day these "aberrant vesicles" would be found in nine cases out of 10. In our annotation we remarked that this statement by the well-known dermatologist of the St. Louis Hospital was startling, for these vesicles had never, so far as we knew, been observed in this country. Subsequently[2] a correspondent called our attention to the fact that they had been observed in "An Unusual Case of Zona," published by Dr. W. A. Mackay in the *Glasgow Medical Journal* for October, 1897, which appears to have been the only case on record in English medical literature at the time. Later, in the *British Medical Journal* of Feb. 11th, 1899 (p. 388), Mr. W. L. Ffrench described the case of a man, aged 60 years, who had severe intercostal herpes, constitutional disturbance, and a temperature of 100° F. Scattered over his face, arms, and abdomen were a number of vesicles. Varicella complicated with herpes had been diagnosed, but Mr. Ffrench was not satisfied with the diagnosis. Upon reading a description of these "aberrant vesicles" he recognised his case as an example. In the *St. Bartholomew's Hospital Journal* for August two cases of herpes zoster with a general eruption are published by Dr. J. A. Arkwright. In Case 1 a man, aged 23 years, had a typical eruption in five patches—(1 and 2) over the outer half of the spine of the right scapula, (3) an oval patch reaching from the middle of the right clavicle to a point three inches above the nipple, (4) over the biceps, and (5) in front of the right elbow. Scattered over the body were a few spots similar to those constituting the herpetic patches—viz., two papules just below and behind the lobule of the right ear, a vesicle over the middle of the sternum and a vesicle over the sixth rib. On the third day the herpetic patches were healing, but another vesicle had appeared on the abdomen. The herpes was thus distributed in the areas of the clavicular and acromial branches of the supra-clavicular nerves, the circumflex nerve, and the internal cutaneous nerve. In Case 2 a man, aged 60 years, had herpes in nearly the whole area supplied by the ophthalmic division of the right fifth nerve, and in part of the areas supplied by the superior maxillary and auriculo-temporal branches. On the fourth day a general eruption composed of spots like varicella vesicles was noticed. Each consisted of a clear vesicle of about the size of a hempseed with a red line round the base. These vesicles were scattered sparsely over the neck, chest, arms, and abdomen. There were about 20 in all. On the seventh day a few vesicles had appeared on the lower limbs, the temperature being 101·8° F. Convalescence was slow, extensive ulceration in the right frontal and parietal regions took place, and an ulcer formed on the right cornea. Dr. Arkwright remarks that the "aberrant vesicles" are difficult of explanation, but Landouzy's hypothesis that herpes zoster is but a local manifestation of a general infection, which we have advocated, at once explains them. If this view be accepted the difficulty lies in explaining the local and not the general eruption. But such a local result from a general intoxication occurs, as is shown by the existence of arsenical herpes.

[1] THE LANCET, Sept. 24th, 1898, p. 822.
[2] THE LANCET, Oct. 8th, 1898, p. 970.

THE LATE MARQUIS OF BUTE AND MEDICAL CHARITIES.

THE late Marquis of Bute during his lifetime was a munificent supporter of hospitals and the assistance he gave, although unostentatiously rendered, was bestowed with no sparing hand. In the year 1881 he established at Aberdare in South Wales an accident hospital with accommodation for 14 patients and the whole cost of the institution has since been borne by the Marchioness of Bute. Two years later Lord Bute erected a cottage hospital of about the same size at Cumnock in Ayrshire, and under the terms of his will his heirs are directed to maintain both these institutions. At Cardiff for many years past H.M.S. *Hamadryad* has done duty as a seamen's accident hospital and excellent work has been done between the decks of this hulk. With beds always occupied and cramped space precluding the possibility of extension there was felt to be a few years ago an absolute necessity for more room and it was decided to erect a building close to the docks, with accommodation for at least 70 patients at an estimated cost of £30,000. Towards this sum Lord Bute offered £10,000 conditionally upon other sums being raised. These conditions were fulfilled, but the managers of the institution were under some anxiety as to their ability completely to carry out their original scheme in its entirety. This anxiety has now been removed for Lord Bute has bequeathed a further sum of £10,000 towards the building, provided it is needed. Some concern has been shown with respect to a stipulation which accompanies this particular bequest, which reads: "I further direct and request my trustees upon the said hospital being completed to arrange that the sick received in the said hospital shall be served by sisters of some Roman Catholic

religious order, if such an arrangement can be made." In this connexion it may be remarked that hitherto the nursing upon the *Hamadryad* has been almost exclusively performed by male nurses.

"LIQUEURS."

THOUGH the taking of a "liqueur" after dinner may not be a pressing necessity, yet it is probably a physiologically correct proceeding apart from the question of the wholesomeness of the individual constituents of the sweet aromatic spirituous liquid. Liqueurs are, of course, decidedly stimulating and they induce a sense of warmth and comfort after a meal which may mask any feeling of gastric discomfort that might otherwise be experienced. This effect, however, is due to some extent to the spirit, but more particularly it may be referred to the aromatic oils. The oils of aniseed, absinthe (wormwood), cinnamon, caraway, &c., and most other aromatic oils, are carminative and soothing, and therapeutically these come under the general description of stomachics. The liqueur is not necessarily a product of distillation so far as its aromatic ingredients are concerned. The distilled products, however, are probably preferable to mere spirituous infusions from the dietetic point of view. Chartreuse and Benedictine are distilled from a mixture of various natural aromatic substances, many of which, it is said, are contained in the British Pharmacopœia. Kümmel, again, is distilled from caraway seeds and many authorities consider that this liqueur is the most wholesome. The colouring matters used in liqueurs are, of course, added, amongst the substances used being Prussian blue, sulphate of indigo, burnt sugar, spinach or parsley green, cochineal, logwood, saffron, and turmeric. Chloroform, it is said, is often a constituent of liqueurs and internally chloroform has a marked sedative action on the stomach and is an antispasmodic. Amongst other constituents used in the formulæ of liqueurs obtained by simple infusion are aloes, spirit of nitrous ether, acetic ether, and ammonia. It is not to be supposed that the best ingredients are necessarily added, since any imperfections would not be obvious to the palate on account of the powerful nature of the aromatic oils. Certain celebrated liqueurs have, as is well known, an interesting and classic history and the secrets of their manufacture are still most jealously guarded. Doubtless these liqueurs had their origin in the fact that their chief effect was that of a carminative during digestion owing to the aromatic oils.

PULMONARY STENOSIS: A VERY RARE FORM OF CARDIAC DISEASE.

STENOSIS of the pulmonary artery is one of the least frequent of cardiac lesions met with in practice. Dr. A. Kasem-Beck, in a recent issue of the *Centralblatt für Innere Medicin* (No. 23, 1900), reports a very rare and interesting case of acquired stenosis of the pulmonary artery—a condition that is difficult to diagnose. The case was that of a man aged 50 years who suffered from cardiac trouble, with a systolic thrill felt over the cardiac area and most distinctly perceived in the second left intercostal space over the situation of the trunk of the pulmonary artery. There was a general increase of cardiac dulness and auscultation revealed a marked systolic murmur which was heard over the cardiac area, but most loudly in the second left intercostal space close to the sternum. A slight diastolic murmur was also present in the second right intercostal space and at the middle of the sternum. The pulmonary second sound (associated with the closure of the valves) was not accentuated. From the position and character of the systolic murmur it was at first thought to be due to mitral regurgitation. The patient died, however, and the necropsy revealed a stenosis of the pulmonary artery, the lumen of which was narrow, while the intima was rough and uneven and beset with nodules and scars close to the pulmonary valves. Microscopical examination showed these nodules to be of gummatous character. The pulmonary valves were partially adherent to these growths, the mitral valves showed a slight degree of incompetency, while the tricuspid valves were thickened and fibrous. The pulmonary arterio-valvular condition was the most marked lesion present. Dr. Kasem-Beck points out the difficulty of diagnosing between such a pulmonary stenosis and mitral regurgitation, because if a diagnosis of pulmonary stenosis should be made on signs and symptoms such as those above given, it would in nine cases out of ten turn out to be incorrect and mitral regurgitation would be found to be present instead. The presence of a history of syphilis would, however, render a diagnosis of pulmonary arterial lesions relatively more likely.

REFORM IN THE BRITISH MEDICAL ASSOCIATION.

As is well known to our readers a committee was appointed at the late annual meeting of the British Medical Association at Ipswich to "consider and report upon the best means of re-organising the constitution of the British Medical Association, such committee to furnish a provisional report to the branches by Feb. 1st, 1901." This Constitution Committee, which consists of Dr. A. G. Bateman, Dr. R. C. Buist, Mr. H. T. Butlin, Professor J. W. Byers, Mr. James Cantlie, Mr. Andrew Clark, Dr. J. Ward Cousins, Dr. H. R. Crocker, Dr. Alfred Cox, Dr. C. G. Gooding, Dr. W. Gordon, Surgeon-General J. B. Hamilton, Mr. Victor Horsley, Dr. J. C. McVail, Dr. C. H. Milburn, Sir John W. Moore, Mr. C. G. D. Morier, Mr. Edmund Owen, Dr. A. Brown Ritchie, Dr. R. Saundby, Dr. J. Roberts Thomson, Mr. T. J. Verrall, Mr. J. S. Whitaker, and Dr. S. Woodcock, met on Tuesday, Oct. 23rd, in the council room of the British Medical Association, Strand. Mr. Edmund Owen was appointed chairman and Dr. R. Saundby (Birmingham) deputy-chairman. The committee spent a lengthened period in carefully considering preliminary details in reference to the scheme of re-organising the Association.

THE TREATMENT OF METACARPAL FRACTURES.

IN a recent number of the *New York Medical Journal* Dr. Carl Beck describes an ingenious method of treating metacarpal fractures. The use of the x rays has shown that these fractures are not so uncommon as was supposed. Previously they were often diagnosed as dislocations or contusions. As there is usually no displacement, the other metacarpal bones acting as splints, the results under any treatment are usually good. In cases of displacement the result may be different. When the displacement is dorsal it is easily recognised and after reduction the fragments can be kept in place by splints, but in lateral displacements the results may be unsatisfactory, considerable deformity and loss of function resulting. In patients who perform delicate work with the hands, such as musicians, watchmakers, cabinet-makers, &c., a badly united fracture may prove a serious hindrance. Reduction is easy, but skiagraphy shows that under the usual methods of treatment the displacement quickly recurs. Experiments made by Dr. Beck show that in a case of fracture of a metacarpal bone the fragments can be held in place by two rubber drainage-tubes lightly pressed into the adjoining interosseous spaces so that they partly fill them up. The tubes can be kept in position by strips of adhesive plaster. The whole is surrounded by a "moss splint," a material which,

after being dipped in cold water, adapts itself to the contour of the hand like a plaster-of-Paris splint, over which it possesses the advantages of being absorbent and much lighter. In one case a young man sustained fracture of the fourth metacarpal bone on striking a blow. There was considerable lateral displacement. Reposition was easy. The fractured area was surrounded by narrow pads which were supported by adhesive plaster, and a long palmar extension splint was applied. Two weeks later the fragments were found to have slipped away from one another. After filling up the third and fourth interosseous spaces with rubber drainage-tubes a skiagraph showed perfect apposition of the fragments. On removing the tubes the displacement recurred.

DRUNK OR DYING?

ANOTHER of those unfortunate errors in judgment associated with the death of the person most concerned was the subject of inquiry by the East London coroner, Mr. Wynne Baxter, on Oct. 18th. The error in this case was primarily that of a police-constable and the person who died was Mr. Alexander Thomas, a cork merchant. The widow of the deceased said that he left his home on Sept. 27th to go to Broadstairs on business. He was expected home on the same night but did not arrive. On Sept. 28th she received a telegram asking her to meet him at Snowhill station. She did so and noticed that he complained of his head and seemed dazed. He informed her that he had been locked up, charged with being drunk, and fined at Broadstairs. He himself said that he was not drunk but had been taken ill and had fallen down while running to catch a train. He was taken home, attended to by Mr. F. J. Oxley, and died on Oct. 17th. A police-constable said that he saw the deceased staggering towards the railway-station at Broadstairs. He fell down three times and cut his head. A cab was sent for to take the deceased to the railway, but he said that he was all right and knew where he was going. A medical man was called who expressed the opinion that he was the worse for drink, so he was taken to the police station. According to the report in the *Evening Standard* of Oct. 18th the coroner here said to the constable, "Did you know that his skull was fractured?" to which the constable answered "Yes." Deceased was locked up and a medical man saw him on the next morning A careful examination was made but no fracture was found. Blood was oozing from one ear and the medical man suggested that deceased should go to the hospital but he refused. He was charged before the magistrate and fined 5*s*. Mr. Frederick J. Oxley said that he saw the deceased for the first time on Oct. 1st. He was very ill and witness diagnosed fracture of the skull. On Oct. 16th deceased became comatose and died on the 17th. A post-mortem examination confirmed the diagnosis. Witness thought it was probable that the deceased had suffered from cerebral hæmorrhage previously to the fall, which would account for his staggering about. Another almost exactly similar case formed the subject of inquiry before Mr. G. P. Wyatt on Oct. 22nd except that the patient after having been locked up from 10 P.M. on Oct. 13th was sent to the infirmary about 6 A.M. on Oct. 14th, where he died on Oct. 16th. Now these are just the cases in which an accurate diagnosis is practically impossible to make off hand. As to the constable who is reported to have said that he knew the deceased to have had a fractured skull, he either did not understand the coroner's question or he had no idea of what a fractured skull was. Probably he thought it was the same thing as a cut head. The name of the medical man who saw deceased first is not mentioned, but he seems to have advised somewhat imprudently. We cannot too often repeat that a man who is seen to stagger, to fall down, and to cut his head, and who is picked up in a dazed condition, may be suffering from one or more of a variety of conditions. He may be simply under the influence of some drug—alcohol, opium, or chloral; he may be suffering from uræmic coma; or he may, as was probably the case in this instance, have a cerebral hæmorrhage. Finally, the drug-poisoning, the uræmic coma, and the cerebral hæmorrhage may co-exist. All these conditions are antecedent to the fall and would make the man dazed whether he fell or not. Secondly, the fall may daze him from simple concussion; it may so seriously injure the base of the skull as to bring about a large effusion of blood; or it may have no effect at all. It is absolutely impossible to differentiate accurately between all these conditions without a most careful examination, and generally a decided opinion cannot be given except after the lapse of a few hours. Ignorant and blameable as the conduct of the police was we do not think that any treatment, however skilled, could have averted the fatal result, but none the less the carelessness was inexcusable.

A SEVERE CASE OF ALVEOLAR ABSCESS.

AN interesting case of extensive suppuration due to a tooth is recorded in the October issue of the *Journal of the British Dental Association* by Mr. Alfred Kendrick. The patient, a man, aged 22 years, was first seen in May, when he stated that a year previously the left mandibular first molar had been fractured during an attempt to remove it. When seen by Mr. Kendrick a serious condition existed. The left eye was completely closed, both eyelids being extremely swollen, and pus was escaping freely from a sinus in the lower orbital margin and from the upper eyelid. A large sloughy opening was present in the centre of the cheek and there were several sinuses along the border of the mandible. There were sinuses near the clavicle and a large one over the sternum. The pus had burrowed upwards alongside the ascending ramus into the temporal fossa, so that the whole temporal region was œdematous. The tooth was removed, but as the patient did not show signs of recovering it was decided to open up the various sinuses. These were scraped and packed with iodoform gauze, the patient making a steady recovery. The case is interesting as an example of the extensive suppuration which may occur in connexion with teeth.

HYPERTROPHIC GONORRHŒAL OSTEO-PERIOSTITIS OF THE FEMUR.

AT the meeting of the Société Médicale des Hôpitaux of Paris on July 27th M. Edgard Hirtz described a case of this rare condition. A girl, aged 19 years, in the third month of gonorrhœal rheumatism showed a considerable swelling of the lower two-thirds of the right femur. The bone was more than double its normal volume. The consistence of the swelling was such that it suggested hyperostosis, but a skiagram showed that it contained very little bone and that the process was principally a hypertrophic periostitis. The swelling was quite indolent, had developed insidiously, and was noticed only by chance. At the same time arthritis of the right knee and leucorrhœa still persisted. Salicylate of soda and iodide of potassium were given without effect. M. Hirtz insisted on the rarity of this form of gonorrhœal hypertrophic periostitis of which the symptomatology and evolution were profoundly different from the gonorrhœal periostitis usually observed in the epiphyses and small bones of the hands and feet.

THE Harben Lectures of the Royal Institute of Public Health for 1900 will be given by Professor A. Calmette, M.D., Directeur de l'Institut Pasteur de Lille, on

Wednesdays, Nov. 7th, 14th, and 21st, at 5 P.M., in the Lecture Theatre of the Examination Hall of the Royal Colleges of Physicians of London and Surgeons of England. The subject of the lectures is "Bubonic Plague," and all interested are invited to be present.

THE German Emperor has recently conferred upon Sir William Mac Cormac the "Kaiser Wilhelm" memorial medal in recognition of his services during the Franco-German war of 1870–71, and Her Majesty the Queen has been graciously pleased to grant her permission to him to accept and wear the medal. The medal was not long since instituted by the present Emperor in memory of his grandfather, "Der Grosse Kaiser."

THE British Medical Temperance Association propose to hold their annual breakfast meeting for medical students at the Cannon-street Hotel, London, on Nov. 9th, at 8.30 A.M. Professor G. Sims Woodhead will preside and Mr. A. Pearce Gould and Mrs. Scharlieb will speak. Admission is by ticket, to be obtained by any medical student by applying to the honorary secretary, Dr. J. J. Ridge, Enfield.

AT the Hospital for Consumption and Diseases of the Chest, Brompton, the opening lecture of the winter session of 1900–1901 will be delivered by Sir Richard Douglas Powell on Wednesday, Oct. 31st, at 4 P.M. The subject will be "Some Varieties of Pulmonary Tuberculosis." These lectures are free to all qualified medical practitioners and to students attending the practice of the hospital.

DR. ROBERT MAGUIRE, physician to out-patients, St. Mary's Hospital, Paddington, and to the Hospital for Consumption and Diseases of the Chest, Brompton, will deliver the Harveian Lectures at Stafford Rooms, Titchborne-street, Edgware-road, W., on Thursdays, Nov. 1st, 8th, and 15th, the subject being "The Prognosis and Treatment of Tuberculous Disease of the Lungs."

DR. ARCHIBALD GARROD will deliver the Bradshaw Lecture before the Royal College of Physicians of London on Nov. 6th. The subject of the lecture is "The Urinary Pigments in their Pathological Aspects."

THE PLAGUE.

THE SIGNS AND SYMPTOMS OF PLAGUE.

AT the instance of the London County Council Mr. James Cantlie, F.R.C.S., has prepared under the above title a concise description of the disease in a form suitable for the information of medical practitioners. It makes a pamphlet of 10 large pages—i.e., five leaves—and a short introduction by Mr. Shirley Murphy states that the Council has engaged the services of Mr. Cantlie to visit any person in London suspected to be suffering from this disease with a view to assisting in the diagnosis. Any medical practitioner desiring to avail himself of these services should apply to the Public Health Department of the London County Council, 8, St. Martin's-place, W.C. Mr. Cantlie recognises eight types of plague—namely, the bubonic, the septicæmic, the pneumonic, the nervous, the toxic or fulminant, the puerperal, and the two mild types, pestis ambulans and pestis minor. Plague, he says, is spread chiefly by human agency, but rats, body and household parasites, wounds, food and drink, and infection by the air, are all possible agents in the spread of the disease. Fæces are found to contain plague bacilli for four weeks after the crisis of the illness has passed and the danger of convalescent patients mixing with the community is thus readily understood. Clothing soiled by vomited or expectorated matters, by fæces or urine, retains infective power for some time (months) if packed away whilst yet moist. Rats are very prone to plague. Whether the rat is seized with plague before man and thus infects him, or whether man infects the rat, is a question as yet undecided. Many epidemics are believed to have been traced to rats, yet in other localities, and markedly so in Glasgow, the rats have not been found infected by plague, either before or after the outbreak. It is by the vermin in the rat's coat that infection is probably conveyed to man. That the plague bacillus gains entrance to the body by the skin is considered probable for several reasons. The bubonic type of plague constitutes three-fourths of all cases. From three to five days is the usual period of incubation, but there is ample proof that a person exposed to plague infection may develop symptoms in 36 hours, or the period of incubation may extend to 10 or 14 days. The prodromal symptoms are either *nil* or of so indefinite a character that no specific importance can be attached to them. The onset of plague is sudden. A rigor or mere chill, a splitting headache, nausea and vomiting, backache, a quick pulse, quickened breathing, congested conjunctivæ, a white coated tongue with reddened edges and tip, a rise in temperature, sudden weakness or prostration, and a marked mental disturbance, with or without glandular pain or swelling, constitute the initial indications of an attack of plague. The majority of these symptoms are common to many forms of illness, and two or three only are special. In no other disease, not even excepting cholera, does the physical strength so suddenly decline, and in no other does mental aberration develop so quickly. The presence of glandular swellings, or a bubo in combination with these, is well-nigh diagnostic of the disease being plague. The temperature may continue to rise, say from 101° F. at the onset to 103°, 105°, or 107° during the first two days, or it may reach 105° within a few hours after invasion. If a small quantity of fluid is drawn off by a hypodermic or antitoxin syringe from within a gland or from the periglandular tissues plague bacilli will be found plentifully in it. Post mortem, almost every organ of the body shows the presence of micro-organisms. They may be readily demonstrated when a smear from any of these sources is spread on a slide, allowed to dry, and a staining fluid added. The stain may be any one of the basic aniline dyes. Seen under a high power the plague bacillus is a short thick rod with rounded ends. In length it measures about 1·5 μ, and in breadth 0·7 μ. In bubonic plague it is the exception to find any lesion of the organs of respiration. Should bronchial or pulmonary symptoms develop, they seldom occur before the fourth or fifth day, and usually immediately before death. The pneumonic type of the disease is described separately. Petechiæ occasionally appear, especially in fatal cases, over the seat of the bubo or on the limb affected by the bubo. A distinctive rash is very uncommon; when a rash occurs it closely resembles that of typhus fever. Typhus fever, which is now an uncommon disease, presents several of the signs and symptoms characteristic of the plague, but typhus fever developes more slowly; the rash is unlike the plague petechiæ; the prostration and the delirium come on at a later stage of the illness. During the epidemic of plague in Bombay in 1896 attention was drawn by Childe to the abnormal number of deaths returned as "pneumonia." A bacteriological investigation of such cases showed that the plague bacillus was present in the sputum in almost a pure culture, and since that time the pneumonic variety of plague has been recognised as a distinct and very fatal form of the disease. The symptoms are expectoration of a quantity of watery sputum, frequently tinged with blood, and occasionally some frothy mucus; hurried or laboured breathing, cardiac discomfort, restlessness, sleeplessness, and early delirium. The local signs are patchy, irregular, pneumonic consolidation of the lungs, congestion of the bases, and intermittent evidences of bronchial catarrh. Buboes do not occur, nor are the glands found swollen either during life or after death. The most fatal period in bubonic plague is from the fifth to the seventh day, but death may take place earlier or later. Suppuration of the bubo and bursting of the abscess occur usually between the eighth and twelfth day, and should the patient survive until that period the chances of recovery are hopeful. From the pneumonic variety of plague few recover; death usually occurs from the third to the fifth day. Convalescence in every instance is very slow; the patient is unfit for sustained physical or mental work for several months after an attack of plague. In India, 70 per cent. of natives who were attacked by plague and were more or less under European treatment died. Amongst white people the death-rate is much less; about 35 per cent. only died in India. In Sydney 103 persons died out of 303 attacked.

THE WORKMEN'S COMPENSATION ACT, 1897:

TWO VIEWS.

IT has moved two correspondents almost simultaneously to address us upon the working of the Workmen's Compensation Act, 1897. We print their communications, which are almost identical in length, in parallel columns. It will be seen that to a certain extent their views tally, but upon one point the difference of opinion is sharp—i.e., the position which the house surgeon, house physician, or resident medical officer should take up. We submit all the observations made by both writers, and that point in particular, to our readers. We shall be interested to hear what is their view upon the working of the Act and as to the directions in which it can be improved, so that, on the one hand, employers may not be unduly anxious to get rid of the services of all whose bill of health is not absolutely clean or whose years begin to press upon them, and so that, upon the other hand, dishonest workmen may not be able to embark upon costly malingering.

PROBABLY no other Act of Parliament has been more variously interpreted by the courts of justice than the Workmen's Compensation Act, 1897. This, however, refers to the determination of the liability of employers and not to the degree of liability. Compensation of the injured workman may be temporary or final—that is to say, he may receive a proportion of his wages weekly during disablement, or he may settle the case for a sum agreed upon with the employer, or, alternatively, have the amount assessed by the county court. The Act has largely increased the duties and responsibilities of medical men by reason of the number of claims for adjudication, and consequently it very seriously raises the question whether the practice hitherto adopted of engaging the services of practitioners on either side, as obtains in the ordinary run of cases in which compensation for personal injury assumes a litigious form, is best suited to the circumstances. On many occasions prior to the passing of the Act the appointment of medical assessors to the courts has been advocated. There is now every reason for emphasising the desirability of such a system. To guide him to an equitable judgment an assessor might have carefully to weigh the evidence of the injured person as to his present state of health and the opinions of medical men put forward on the one hand in support of the claim and on the other with a view to its mitigation or refutation. It is quite clear that such duties would call for a keen observation of facts and a logical deduction therefrom, or, in other words, for a mind capable of taking a comprehensive medico-legal survey. The demand for such a commodity would no doubt be the means of obtaining an adequate supply. At the same time it behoves the medical schools to see that their curriculum of forensic medicine includes special instruction to the students on the lines suggested by the above remarks.

Failing the appointment of assessors, I do not see that any other method than that which at present obtains is likely to have much chance in promoting the more rapid and less costly settlement of claims. It is true that both time and expense might be saved if cases for compensation were mutually referred by the injured and injurer to some competent medical arbitrator, but as a general proposition it has always been considered inimical to the interests and reputation of the profession for its members to assume the function of what might be termed a financial adviser in the matter of claims for pecuniary compensation for personal damages. Again, it has been suggested that the resident medical officers of local hospitals might advise and direct both employer and employé, and thus render unnecessary the resort to other medical testimony by the one or the other. But many consider that it would be found unworkable for a medical officer, whether honorary or stipendiary, of a public institution to have to settle in a sense the cases here considered; and for this particular reason, that his decision might reflect—and in certain instances ought to—on the opinion of, and on the treatment by, the medical man under whose care the claimant was whilst in hospital. Moreover, a hospital would gain no credit from the decision of its officer where everything turned out satisfactorily as regards the future health of the claimant in respect of his late injuries, whilst it would incur discredit if the reverse were to happen. Nor are the duties of medical officers of public hospitals so light, as a rule, that such a complement of work is required. It is a fact that a large number of the cases of claims for personal injuries under the Workmen's Compensation Act do not come under the notice of hospital officials. A working man has comparatively little to lose should the decision of a county court go against him, so he can afford to engage a private practitioner, whose remuneration for his services, as is well known, is too frequently contingent on his patient's success at law.

THE Workmen's Compensation Act, 1897, has not only brought the question of the assessment of personal injury claims on employers prominently to the front but it has resulted in an immense increase in the number of claims upon the public generally. For whenever the slightest accident now occurs the person injured thoroughly understands that he can make a claim on the person responsible for the accident, whether the injury be due to that person's own act or negligence or to the act or negligence of someone whom he has employed. THE LANCET has from time to time inserted various articles on the subject of the working of the Workmen's Compensation Act of 1897, for the questions involved are not only interesting to the profession in themselves but their discussion opens up a new and very far-reaching development of professional usefulness in the United Kingdom. In fact, to follow all the possible issues involves the closest study of medico-legal subjects. In Germany and in the Dominion of Canada these subjects have received a large amount of attention, and Universities have instituted professorships having much wider scope than those of forensic medicine in this country.

Wise counsels have been always opposed to the unnecessary development of specialism. But in view of the probable future, as there must be medical men specially capable of dealing with medico-legal points if the Workmen's Compensation Act is to be properly administered, they should be in such large numbers and so dispersed throughout the country that specialism in its old and bad form may not be attributed to them. It would be much better for the medical referees to advise the county court judges on the medical aspect of cases as assessors instead of giving medical reports which might be misconstrued. In a large number of cases workmen would be pleased to take the opinion of an independent medical referee and to abide by it instead of going into court to settle their claims, while many employers would welcome a simple method of settling the amount of liability without the present cumbrous procedure. An examination by a medical referee of known standing would be infinitely less expensive than the present method of settling disputed claims where no legal question arises and where the matter in dispute is only as to the extent of the injury. Again, there should be someone in every local hospital competent to advise and direct both claimants, who have received some accidental injury, or employers and other parties, who are liable to pay compensation under the various Acts now in force or arising under the common law. To demand from a senior medical officer in a hospital this knowledge is not to ask too much from him. If the legislature in the coming session of Parliament amends the Act with the object of making the medical referees of real usefulness the educational authorities of the profession must rise to the occasion and insure that in the near future a large number of medical men may be found who have qualified themselves to deal with all questions of accidental injury in their medico-legal aspects.

I am sure that if the legislature in the coming session of Parliament amends the Act with the object of making the medical referees of real usefulness, and devises a scheme which is in harmony with the views of the medical profession, the medical profession will rise to the occasion, and that in the near future there will exist a large number of men who have qualified themselves to deal with all questions of accidental injury in their medico-legal aspect. At the present time the medical referees under the Act are not being used at all. The community is losing the value of professional services which, if properly directed, would be of the utmost advantage to it, and the medical profession is losing an excellent chance of showing how fitted it is to assist the State in schemes of social betterment.

THE WAR IN SOUTH AFRICA.

THE military situation is unchanged. Ex-President Kruger has left for Europe and marauding bands of Boers still hold the field.

It may be remembered that Mr. T. W. Edmunds, honorary secretary of the Durban Government hospitals, some time ago wrote a long and strongly condemnatory letter to a contemporary in which he charged a number of army medical officers with incompetency, and medical orderlies with brutality, and alleged a criminal lack of invalid accessories. He also stated that if the Commission were honestly desirous of getting at the truth evidence enough would be forthcoming to convince the most sceptical. It would hardly be believed that when called as a witness and confronted before the Royal Commission with these allegations he was unable to substantiate one of them, but such, according to the *Cape Argus* of Sept. 21st, was the fact. He had to confess that he had no personal knowledge and was going entirely on hearsay evidence. It is needless to add that he had to withdraw all he had said. Lord Justice Romer had not, however, done with him, but called his attention to the statement regarding the honest desire of the Commission to get at the truth. He withdrew this also. As the witness could give no information the President said there was no use in hearing unsubstantiated general statements.

In the report which we gave in our last issue (p. 1167) of the very interesting address of Professor Chiene, outlining his experiences as a consulting surgeon in South Africa, which he delivered in opening the winter session of the class in surgery in the University of Edinburgh, we notice among other things that he touched upon the subject of enteric fever and its causation. Speaking of what he had heard of the serious illness of comrades and friends attacked with this fever or suffering from dysentery Professor Chiene said: "Norval's Pont had been an important camping ground since Oct. 1st and was covered with dried enteric and dysenteric dejecta. Dust-storms drove the poison into every nook and cranny of tents and huts. From the very first every precaution had been taken, but it was no question of water or milk. It was one of dust and flies."

A TRIP FROM CAPE TOWN TO KROONSTADT.

(FROM OUR TRAVELLING CORRESPONDENT.)

I have just had a very pleasant and interesting trip in No. 5 Ambulance Train which enabled me to pay flying visits to all the larger military hospitals on the lines of communication between Cape Town and Kroonstadt—a distance of upwards of 800 miles. The train ran up to Kroonstadt with a large quantity of Red Cross, medical, and "Field Force Fund" stores for distribution at various stations, "loaded"—i.e., took on 96 sick and wounded—at Kroonstadt, and then ran back to Norval's Pont to unload.

Leaving Cape Town in the evening we reached Deelfontein, 30 miles south of de Aar, on the next afternoon. The train stopped here for nearly an hour, right in the middle of the Imperial Yeomanry Base Hospital, which at this point bestrides the line, the wards and administration huts being on the west side and the staff and convalescent annexe tents on the east. Colonel A. T. Sloggett, R.A.M.C., commandant, and Mr. H. A. Ballance, chief of the surgical staff, very kindly showed me over their magnificent hospital, of which they are justly proud. The Yeomanry Hospital has been so frequently described and lauded in the medical press that I need not weary your readers with a detailed description. It must be remembered that it is a *base* hospital, that it has not had to contend with the transport difficulties of hospitals farther up country, and that its treasury is always overflowing. There were 997 cases under treatment (this includes the convalescents in the bell-tent annexe) at the time of my visit. The serious cases occupy the wards (partly huts and partly tortoise tents) on the western side of the line, while the convalescents, the staff, and the orderlies live in bell tents on the eastern side. Patients have not only every comfort, but every luxury imaginable and the administration of the hospital had been reduced to an exact science under the benevolent despotism of Colonel Sloggett, the tactful and popular commandant. Mr. Fripp has gone home and his place as surgeon-in-chief has been taken by Mr. Ballance. The site of the hospital—a narrow strip of ground under a high kopje—is not an ideal one, necessitating as it does crossing the railway main line to reach the convalescent and staff camps and cramping the huts and marquees rather closely together. The beds in some of the huts and tortoise tents appeared to me to be somewhat too near each other. Convalescent officers mess with the

FIG. 1.

Imperial Yeomanry Hospital. General view of site at Deelfontein.

hospital staff. I think it is a pity that this practice has been adopted, as it is an objectionable one from many points of view; however, it seems ungracious to pick out slight defects in this splendid institution.

At De Aar and Naauwport I paid brief visits to the hospitals—No. 3 Stationary Hospital at De Aar, under Major J. W. Cockerill, R.A.M.C., 290 beds; and the section of

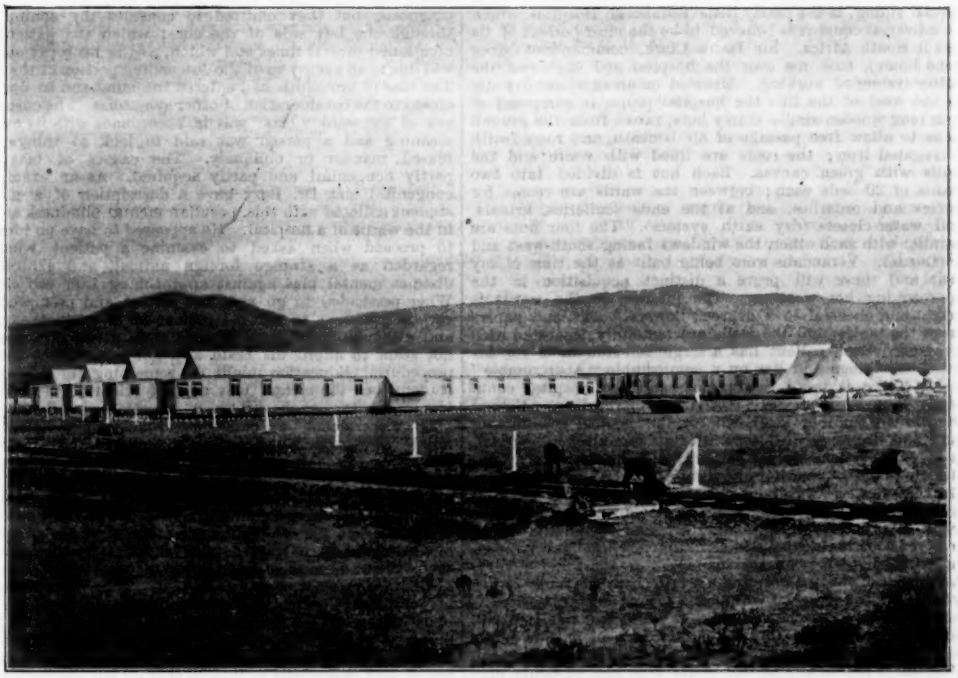
FIG. 2.

Imperial Yeomanry Hospital. Nearer view of a tent.

No. 6 General Hospital at Naauwport, under Major Hassard, R.A.M.C., 150 beds. In both hospitals there were many vacant beds. I was very favourably impressed with the neatness, cleanliness, and general efficiency of both.

At Norval's Pont on the Orange river our train made a

FIG. 3.



Edinburgh Hospital, Norval's Point.

FIG. 4.

Edinburgh Hospital. Interior of a ward.

long halt. Here there is a large convalescent camp accommodating over 1000 men who all seemed very happy and comfortable. The camp is some distance from the station. Close to the station, with which it communicates by a special siding, is the pretty little Edinburgh Hospital, which by universal consent is believed to be the most perfect of its size in South Africa. Sir James Clark, commandant (since gone home), took me over the hospital and explained the entire system of working. Situated on an excellent dry site to the west of the line the hospital proper is composed of four long wooden single storey huts, raised from the ground so as to allow free passage of air beneath, and roofed with corrugated iron; the roofs are lined with white and the walls with green canvas. Each hut is divided into two wards of 20 beds each; between the wards are rooms for nurses and orderlies, and at the ends sculleries, urinals, and water-closets (dry earth system). The four huts are parallel with each other, the windows facing south-west and north-east. Verandahs were being built at the time of my visit and these will prove a distinct acquisition in the approaching hot weather. The interior of the wards is bright and cheerful to a degree; flowers, books, and papers strew the tables, and the walls are tastefully decorated with pictures. Each patient has a large bed-side table for his little belongings and lies on a comfortable "Abercrombie" bed. Space is more than ample and the hospital could easily take 20 more beds without overcrowding. Behind the wards is another large hut for the medical and nursing staff and dressers, with separate huts for kitchen, general, pack and medical stores, surgery, soda-water factory, and electric plant. The whole hospital is lighted by electricity. The latrines, a washhouse, and a disinfecting hut are situated well away from the hospital to the west. The water-supply, from a deep artesian well, is pure and practically inexhaustible. The hospital has its own electrical engineer who also manages the soda-water factory, its own resident builder, and a small corps of Kaffir ladies who do all the hospital washing. The operating theatre is somewhat small, and hot and cold water are not laid on; but as serious surgical operations are infrequent this defect is not a very important one. On the whole, the Edinburgh Hospital is practically perfect of its kind and Scotsmen may well be proud of their gift to the nation.

After a short halt at Springfontein, where I only had time to admire from a distance the mathematical precision of the lines of Colonel Duke's hospital (half No. 3 General Hospital), we reached Bloemfontein late at night, 50 hours after leaving Cape Town. Here I was informed that Professor J. L. Notter, Dr. Simpson, and Major Bruce, of the Enteric Fever Commission, had arrived and had commenced work. I have already in a former letter [1] given a fairly complete sketch of the Bloemfontein hospital arrangements. The Principal Medical Officer of the Army, Surgeon-General W. D. Wilson, has his headquarters here, but he hopes soon to transfer them to Pretoria. The Hospitals Commission left Bloemfontein for the north just as we arrived, in a magnificent special train adorned with huge red crosses. All who have attended the sittings of the Commission are agreed that so far the Royal Army Medical Corps has come out of the ordeal unscathed and that there is every ground for believing that the ultimate finding of the tribunal will convey an adequate recognition of the services of military and civilian surgeons out here.

Kroonstadt was reached late on the next night, exactly three days' journey from Cape Town. The hospitals here, No. 3 General Hospital and the Scottish Hospital, cannot be dismissed in a few words, and as my letter is already a lengthy one I propose dealing with them in a subsequent communication.

Kroonstadt, Sept. 19th.

"BIAS IN CLINICAL MEDICINE."

DR. JUDSON S. BURY of Manchester delivered an interesting address on the above subject on Oct. 17th, to the members of the Medical Society of University College, London, on the occasion of the society's annual public night held at University College. Dr. Bury said that as students and medical men one of their main duties was the examination of patients. His experience was that this was not always done in a satisfactory manner. There was need for more care; the examination was too often carried out in a perfunctory manner. For example, they found bronchitis and thought that that was a complete diagnosis, but they omitted to consider the aching pain through the left side of the chest which the patient had mentioned several times and which, as the necropsy showed, was due to an aneurysm of the descending portion of the aorta. The bias of bronchitis had entered the mind and its door was closed to the consideration of other symptoms. The customary use of the word "bias" was in accordance with its original meaning and a person was said to look at things in a biased manner or obliquely. The causes of bias were partly congenital and partly acquired. As an example of congenital bias Dr. Bury gave a description of a medical student afflicted with this peculiar mental blindness at work in the wards of a hospital. He appeared to have no idea how to proceed when asked to examine a patient whom he regarded as a strange foreign animal, and exhibited a distinct mental bias against approaching him too closely. When persuaded to go near the patient and prompted with certain questions to ask the patient he repeated the queries and although intelligent answers were given him they did not seem to afford his brain any guide as to the mode of procedure. Education might do something for this type of student, but the mental bias against scientific method was too strong for much success to be attained. By acquired bias was meant a condition that might affect the mind of good average development and promising scientific aptitude. One of the chief causes of this was imperfect education allowing the mental faculties to work in a fixed groove. Sir J. Russell Reynolds used to tell how once at the practical examination in medicine for the London M.D. he asked the candidates after they had examined one of the skin cases if they noticed anything else wrong with the patient and most of them failed to observe that one side of the face was completely paralysed. They were biased in favour of skin lesions and could not observe anything else, but if they had been told that it was a nervous case the facial paralysis would not have escaped their notice. The cure was to have a detailed methodical scheme and when anyone felt nonplussed over a case to be sure that all the headings of the scheme had been gone through. Another form of bias was the bias of authority, by which term was meant all statements with regard to disease and its terminology to be found in the best medical literature. It seemed paradoxical to affirm that the knowledge of disease already gained acted in some degree as a retarding agent, yet there was an element of truth in such a statement. A fresh discovery in medicine might turn the mind too much in one direction and destroy the comprehensive view necessary for real progress. All authoritative statements, even the names of diseases, might in a sense be regarded as productive of mental bias; the remedy was to strive to acquire a scientific habit of mind. If an original investigation was made into the classification of diseases into curable and incurable and observations were made with regard to the course and termination of morbid processes it was found less possible to draw sharp distinctions between curable and incurable diseases. In illustration of this Dr. Bury quoted a case of his own of a girl who exhibited definite objective signs of brain disease, which were observed and verified both in Manchester and in London. All the symptoms entirely passed away and the patient regained her sight and health and was able to resume her occupation. Such experiences tended to modify their views in two directions: they made them more careful in the treatment of ailments that tended to recovery and more hopeful regarding those which, as a rule, pursued a downward path. Proceeding further, Dr. Bury said that the bias of inclination was especially dangerous, and it came to the front in reports of cases and in essays and monographs on special diseases. The specialist, perhaps unconsciously, did not give full consideration to features which pointed to another conclusion—he regarded these as exceptional, and laid stress on facts which favoured what he wished to believe and ignored facts which told against his inclination. It was necessary to remember that having decided in favour of a particular diagnosis their mind must not be closed to the possibilities of future developments. The bias of specialism was another danger to be guarded against; a division of labour was necessary for the advancement of any science, but if energy was concentrated in a particular direction it

[1] THE LANCET, August 25th, 1900, p. 601.

must not be wholly expended there. It was desirable for a throat specialist to restrain his tendency towards the diagnosis of adenoids and to curb his ardent desire to cut or scrape the throat of every child who was brought to him. The last bias which Dr. Bury described was the bias of physical signs. A patient was not an automatic machine into which a penny could be dropped to pull out a particular disease ready for treatment. On the contrary, the organs by which he moved and lived were composed of living tissues which had a past history and a future development, both of which required consideration before the case could be properly grappled with. The thoughtful qualified man began to find out that he must study other things than mere medicine to acquire that knowledge of humanity so essential to a just appreciation of the many ills to which flesh was heir. The man who got into a habit of regarding every patient as merely a "case" and who ignored the look of feebleness or of distress, or the expression of anguish, and thought only of physical examination, was not well equipped for the diagnosis of obscure disease—he became a machine which was totally unable to unravel the complicated problem of human pathology. Three things were essential for the preventive treatment of the disorder known as bias—namely, care, doubt, and truth, and if one thing helped more than another to avoid the pitfalls of bias and of hurried unscientific work it was that practitioners should put themselves in sympathy with their patients and that they should care for them in the way that Dr. James Jackson, the hero of Oliver Wendell Holmes, cared for his patients. Jackson would have it that to cure a patient was simply to care for him. Such devotion was only to be looked for in the man who gave himself wholly to medicine, the noblest of arts which the gods of ancient religions did not disdain to practise and to teach.

ASYLUM REPORTS.

Warneford Asylum, Oxford (*Annual Report for 1899*).—This institution, intended for the care and treatment of patients of both sexes belonging to the upper and middle classes of society, does not receive patients suffering from idiocy, epilepsy, or paralysis. The regular terms of admission are £2 2*s.* a week, but the committee of management have power to alter these terms at their discretion. The average number of patients resident during the year was 91, and comprised 42 males and 49 females. 15 cases were admitted in the year, nine being males and six females. Dr. James Neil, the medical superintendent, states in his report that one of the patients admitted had been a patient in the asylum on a previous occasion. 12 patients were discharged during the year, and of these eight—viz., four men and four women—were regarded as recovered, a proportion equivalent to 13·1 per cent. of the average number resident. The patients who recovered were in nearly every instance recent cases and none of them were admitted farther back than 1898. Two voluntary boarders were admitted suffering from a narcotic drug habit but have been restored to health. It is said to be doubtful, however, whether they may not relapse to their vice on exposure to temptation, "and the difficulty in treatment is to persuade them to submit to restraint long enough for the power of resistance to be established." There were five deaths during the year, a total of 5·5 per cent. of the average number resident, the respective causes being general paralysis, pachy-meningitis, pneumonia, organic brain disease, and senile decay. A large clerical element is present in the population of the asylum. Thus of a total of 108 patients under treatment during the year 30 were clergymen or the wives, widows, or children of clergymen. Regarding the tendency to overdo amusements, theatricals, &c., for patients Dr. Neil observes that while amusement is certainly an important means of brightening asylum life in some quarters at the present day it is overdone. "As a measure of treatment suitable and regulated work is more useful than amusement. For patients of the male sex there is no work equal to that afforded by a farm or garden. ..... Female occupation, such as needlework, has the disadvantage of being indoor employment and of requiring a sedentary and stooping attitude," but it is possible occasionally to persuade lady patients to do a little light work in the laundry. The committee of management state in their report that the financial position of the asylum is satisfactory and that improvements and alterations are made for rendering more agreeable the accommodation of patients. A reconstruction of the lavatories in the old building has been carried out and the arrangements now thoroughly meet the most modern requirements. The cost of the work was about £460. An external staircase for use in case of fire has been provided for the ladies' upper ward in the new building at the instance of the Commissioners in Lunacy. The committee has been in treaty with Magdalen College for the purchase of about 13 acres of land adjoining the Asylum. The increasing number of Oxford medical graduates has suggested to the committee the propriety of encouraging a special link between them and an asylum which has always been closely associated with the Medical School of Oxford University. The Lunacy Commissioners in their report state that much charitable work is done in keeping private patients at the low rates current in this institution. "Many patients live here who, but for the advantages given by this hospital, would have to be cared for in a pauper asylum." The case-books are said to be well kept and the general arrangements for the care and comfort of patients are quite satisfactory.

Wonford House Hospital for the Insane, Exeter (*Annual Report for 1899*).—The average number of patients resident during the year was 125 and comprised 52 males and 73 females. 28 cases were admitted during the year, 16 being males and 12 females. 25 of the 28 cases were first admissions. Dr. P. Maury Deas, the medical superintendent, states in his report that as regards the character of the cases admitted 18 could be regarded as affording more or less hope of recovery, while the remainder were hopeless from the first—five from the long duration of the malady, three from organic brain disease, and two from old age. In seven cases the bodily health and condition on admission were decidedly bad, while in 11 there was impaired health of various kinds. In 15 cases the chief cause of the mental trouble was considered to be conditions affecting the bodily health. Among other factors of causation three were due to overwork in young students, in nine the malady was due to anxiety, worry, and other emotional causes, and two were directly traceable to intemperance. In 11 cases heredity was traceable and in nine the contributing influence of former attacks existed. As regards the results of treatment, the number of patients discharged as recovered during the year amounted to seven (three males and four females), or 5·6 per cent. of the average number resident. The deaths numbered six (five being males and one female), or 4·8 per cent. of the average number resident, four resulting from melancholia, dementia, general paralysis, and epilepsy respectively and two from senile decay. About 12 patients have usually enjoyed the privilege of walking out unattended beyond the grounds "on parole." This privilege, which is a great help to treatment and a powerful encouragement to self-control, has seldom been abused by the recipients. A branch establishment in the form of a home at Dawlish forms a valuable adjunct to the means of treatment. "Some permanent cases find a quiet and comfortable home there, and many patients who go there for change or in convalescence appreciate greatly the more domestic and home-like life." The committee of management state in their report that £904 has been spent under the head of alterations and repairs of the institution. The weekly rate of payment per patient is £2 7*s.* and upwards, according to the nature and requirements of the case, and patients paying higher rates are allowed private rooms and special attendants.

Belfast District Asylum (*Annual Report for 1899*).—The average daily number of patients resident during the year was 922 and comprised 494 males and 428 females. The admissions during the year amounted to 334, the highest number since the opening of the asylum, the corresponding figures for the previous year being 281. Part of this increase is explained in the report by Dr. William Graham, the medical superintendent, as due to the growth in population of Belfast during the year, the facility of admission, and the transfer of a number of chronic mental cases from the union workhouse to the asylum. "These cases of chronic insanity," says Dr. Graham, "while giving perhaps but little hope of eventual recovery, show a steady improvement, a growing amelioration of their unhappy condition which, from a humanitarian standpoint, well repays the financial outlay..... They experience a greater amount of personal liberty, are engaged in healthful agricultural pursuits ..... and manifest a cheerfulness and interest in life previously unknown." Regarding the increase of the insane in the population of

Belfast, this is considered as slight and not sufficient to afford grounds for pessimism. Of the causes of insanity among the admissions the three to be most emphasised were hereditary influences, intemperance in drink, and bodily diseases. Dr. Graham says: "Here there seems to be room, without yielding to Utopian dreams, for the legislator to minimise the temptation to drunkenness. As to the third cause, so far as insanity is complicated by pure bodily disease, there is ground for hope. A considerable proportion of physical maladies contributing to the production of insanity are themselves the fruits of disobedience to physiological laws. ..... Much might be done by our educational systems to familiarise the minds of the young with the laws which regulate and preserve health. Even in the causes commonly described as moral, such as domestic troubles, to which 10 cases have been attributed, and religious excitement, which accounts for nine, there was evidence that behind these causes there was a reduced physical condition which made resistance to those emotional disturbances less possible." The number of cases discharged as recovered during the year amounted to 100, or 10·8 per cent. of the average number resident. This slightly diminished recovery-rate is attributed to the increased influx of the chronic insane from the union already referred to. The deaths during the year amounted to 79—viz., 39 males and 40 females—or 8·6 per cent. of the average number resident. 20 post-mortem examinations were held. 16 patients died within one month of admission. The causes of death were as follows. One was due to suicide by strangulation, 13 were due to general paralysis of the insane, six to senile and general debility, 14 to mania and melancholia, 12 to phthisis, 14 to inflammation of the lungs and membranes, and three to epilepsy. Zymotic disease prevailed to a slight extent. In the beginning of the year one female patient succumbed to enteric fever. There were 11 cases of erysipelas, one of which proved fatal. Owing to legislative changes the old board of governors has been succeeded by a committee of management consisting of members of the local authority who have already displayed skill and public spirit and a grasp of administrative detail which, says Dr. Graham, augurs well for the future working of the institution.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Islington.—As usual, the annual report of Mr. Alfred Harris, the medical officer of health of this district, is a very complete one and deals in detail with the statistics relative to the parish. We can, however, touch upon a few points only. The density of population in Islington is no less than 112 persons per acre, as compared with 68·8 persons per acre for Bolton, the most densely populated of the great towns. Huddersfield has a density of population of but 8·7 persons per acre and Liverpool 47·9. Mr. Harris is fully alive to the fallacies which underlie these comparisons of density, but he thinks that even when all allowances were made Islington would still retain the lead as regards density. Moreover, the fact that the rate of increase of population in Islington is now very small lends additional support to the position taken up by Mr. Harris. The approaching census is matter for consideration by the author of the report before us, and he makes some good suggestions as regards the appointment and control of the enumerators which may well be noted by the Registrar-General. Under the heading of "Adulteration of Food" some useful information is supplied, and the control of the milk traffic in Islington is clearly an energetic one, the Sunday trade being by no means overlooked. Out of 532 samples of milk examined 181 were procured on Sundays and 231 on other days; the remaining 120 were procured in transit at the railway stations. Of the Sunday samples 14·9 per cent. were sophisticated. Of the week-day milks 11·6 per cent. were sophisticated. With these results it is useful to compare the samples which were taken at the railway stations, for out of the 120 samples examined only 0·8 per cent. were adulterated, a revelation which indicates that the dairyman is far more successful in controlling the farmer than the sanitary authority and the public are in controlling the milk-vendors. All the samples of milk taken in Islington were examined for boric acid, which was found in 26·7 per cent. Of the boracised milks 10·6 per cent. were adulterated, while of those not containing this preservative only 7·7 per cent. were adulterated. Boric acid was apparently the only preservative looked for. Of the 181 Sunday milks, 55 were preserved by boric acid, while of the 231 week-day samples 58 were thus preserved. Of 120 samples of railway milk 29 contained boric acid. The Islington vestry is to be congratulated on having set the example in London of examining milk for the tubercle bacillus. It was found that 14·4 per cent. of the milks examined were infected with tubercle and there was considerable suspicion in regard to another 14·4 per cent. Curiously enough, the samples of milk obtained from farms in the country were more infected with tubercle than those obtained from the urban cow-houses. Perhaps this means that the sanitary control of cow-sheds, &c., in towns is better than it is in the country.

Manchester.—In his last quarterly report on the health of Manchester Dr. J. Niven records the result of the administrative work relative to phthisis. He states that during the quarter ended June 30th 226 cases of phthisis were notified (voluntarily) by medical men in connexion with public institutions and 152 cases by medical practitioners in their private capacity. Out of this total of 378 cases the two medical men appointed by the corporation for the work visited 366, but in several instances repeated visits had to be made before the patients were found at home. Notification of advanced phthisis is not yet complete in Manchester, as there were during the period in question 147 deaths from this disease concerning which the sanitary authority were unaware. But in these cases disinfection was duly carried out. The notifications referred to have resulted in much good work in the direction of disinfection, no less than 181 houses having been thus dealt with. In addition to this 178 houses have been cleansed by the occupiers themselves. Under the provisions of the Manchester General Powers Act, 1899, 75 samples of milk taken at the Manchester railway stations have been subjected to bacteriological examination, and four of these were found to be infected with tubercle.

Warwickshire County District.—We welcome the advent of another genuine county report, this time that for Warwickshire, for although Dr. Bostock Hill has for the last 11 years summarised the local annual reports for this county the present is his first annual report as county medical officer of health. Slowly, but surely, the several counties are falling into line, and soon we shall hope to be able to think of a complete county health service. From the standpoint of population Warwickshire is not of great importance, its total of 352,935 being considerably less than those of several of the large towns. The birth-rate for 1899 was 27·98, there being but little difference between the urban and rural rates, while the general death-rate amounted to 15·93 per 1000. As regards the prevalence of zymotic disease there is nothing of general interest to record, but enteric fever was unduly prevalent in certain districts, and Dr. Hill used the occasion to insist upon better scavenging and the paving of courts and yards in thickly populated districts. The death-rate for diarrhœa was 1·14 per 1000, a rate which is in excess of those of all the other six principal zymotic diseases taken together. Dr. Hill points out the necessity for cleanliness of soil and air in the prevention of diarrhœa, and to this recommendation we should be inclined to add a better control of the milk-supply. The infantile mortality of the county was 142 per 1000 births, the rate for Aston Manor being no less than 194, and that for Nuneaton 166. The importance of popular education in the control of this terrible tax on infant life is dwelt upon by the county medical officer of health. Notification of infectious disease is now, of course, general throughout the county, and the great educational centre of Rugby has the honour of having held out against voluntary notification to the end. So, too, in the matter of isolation accommodation Rugby possesses no general infectious diseases hospital, but in connexion with the subject of isolation for the county Dr. Hill promises a further report. Vaccination is not going well in Warwickshire and the report before us advocates that pressure should be put upon the guardians by the sanitary authorities. Unfortunately, in the rural districts these two bodies are largely composed of the same individuals.

Cornwall County District.—The sanitary committee of this

county, which had a population of 322,316 in 1891, has not much to say in its annual summary for 1899 as to the sanitary requirements of the districts under its care. The general death-rate was 16·08 per 1000 and the zymotic death-rate was 1·132 per 1000. The infantile mortality was 135·27 per 1000 births, as compared with a rate of 163 per 1000 births for England and Wales for the same period. As regards measles "the mortality-rate worked to two places of decimals is represented by zero." The diarrhœal death-rate was 0·43 per 1000, as against 0·98 for England and Wales. The enteric fever death-rate amounted to 0·14 per 1000. We should have been glad of some information relative to water-supply, sewage disposal, isolation accommodation, &c., in the county.

The Island of Guernsey.—Dr. John Brownlee, the newly-appointed medical officer to the board of health of Guernsey, embodies some interesting information in his first annual report. There is, unfortunately, no system of the registration of the causes of death by qualified practitioners in Guernsey and hence the records of the island in this sense are very defective. Dr. Brownlee has, however, been able to extract (*a*) the number of births and deaths for the last 20 years, (*b*) the ages of all who died between 1887 and 1898, and (*c*) the causes of death in so far as they relate to infectious diseases. It seems that this sanitary quickening in the case of Guernsey may be traced to the prevalence of diphtheria in recent years, an occurrence which led to the appointment of a special committee of inquiry which in turn recommended the appointment of a medical officer of health. Moreover, public lectures were arranged for, isolation accommodation of a sort was provided, and a laboratory was fitted up, and finally it was determined to form a board of health for the island. Diphtheria has, therefore, not been without its uses in Guernsey. The total population of the island (including some 500 soldiers) is estimated at 37,905, and the general death-rate, corrected for age distribution, was for 1899 16·5 per 1000. The infantile mortality was 135 per 1000 births, as against a rate for the Isle of Wight (1881–1891) of 89 and for the Scilly Isles of 117. "Convulsions" figure altogether too prominently in the causes of infantile deaths, and there is obviously much room for improved certification. Infectious disease has in the past been but little under any control, but the medical officer of health will, we think, soon modify this condition of affairs. An improved water-supply seems to us one of the most pressing needs of the population. We congratulate Guernsey upon its sanitary awakening.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6416 births and 3815 deaths were registered during the week ending Oct. 20th. The annual rate of mortality in these towns, which had declined from 18·4 to 17·1 per 1000 in the three preceding weeks, was again 17·1 last week. In London the rate was 15·8 per 1000, while it averaged 18·0 in the 32 provincial towns. The lowest death-rates in these towns were 10·4 in Halifax, 10·7 in Cardiff, 11·3 in Norwich, and 11·9 in Croydon; the highest rates were 22·3 in Manchester, 22·7 in Sheffield, 23·6 in Salford, and 28·6 in Gateshead. The 3815 deaths in these towns included 468 which were referred to the principal zymotic diseases, against numbers decreasing from 776 to 563 in the three preceding weeks; of these, 197 resulted from diarrhœa, 85 from diphtheria, 71 from "fever" (principally enteric), 43 from whooping-cough, 37 from measles, and 35 from scarlet fever. The lowest death-rates last week from these diseases occurred in Plymouth, Birkenhead, Bolton, and Halifax; and the highest rates in Swansea, Leicester, Salford, and Blackburn. The greatest mortality from measles occurred in Swansea; from scarlet fever in Sunderland; from whooping-cough in Gateshead; from "fever" in Portsmouth, Wolverhampton, Nottingham, and Preston; and from diarrhœa in Cardiff, Norwich, Blackburn, and Gateshead. The 85 deaths from diphtheria included 36 in London, nine in Leicester, eight in Leeds, and eight in Sheffield. No fatal case of small-pox was registered last week in any of the 33 towns; and only one small-pox patient was under treatment on Saturday last, Oct. 20th, in the Metropolitan Asylums hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2342, against numbers increasing from 1703 to 2187 on the seven preceding Saturdays; 328 new cases were admitted during the week, against 318, 313, and 322 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 164 and 173 in the two preceding weeks, further rose last week to 182, but were 106 below the corrected average. The causes of 52, or 1·4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Nottingham, Bradford, Leeds, Hull, Newcastle, and 12 other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, Preston, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·3 and 18·0 per 1000 in the two preceding weeks, further declined last week to 17·5, but showed an excess of 0·4 per 1000 over the mean death-rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 11·9 in Leith and 12·0 in Greenock to 18·9 in Glasgow and 23·0 in Aberdeen. The 542 deaths in these towns included 30 which were referred to diarrhœa, 14 to whooping-cough, eight to diphtheria, six to "fever," five to scarlet fever, two to small-pox, and two to measles. In all, 67 deaths resulted from these principal zymotic diseases, against 107 and 74 in the two preceding weeks. These 67 deaths were equal to an annual rate of 2·2 per 1000, being 0·1 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had been 53 and 36 in the two preceding weeks, further declined last week to 30, of which 12 occurred in Glasgow, eight in Dundee, five in Edinburgh, and four in Aberdeen. The deaths from whooping-cough, which had been 18 and 13 in the two preceding weeks, rose again to 14 last week, and included seven in Glasgow and four in Greenock. The fatal cases of diphtheria, which had been five and seven in the two preceding weeks, further rose last week to eight, of which five were registered in Glasgow and two in Edinburgh. The deaths referred to different forms of "fever," which had been 13 and five in the two preceding weeks, rose again to six last week, and included five in Glasgow. The fatal cases of scarlet fever, which had been seven in each of the two preceding weeks, declined last week to five, of which three occurred in Glasgow, where the two deaths from small-pox were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 98 and 104 in the two preceding weeks, further rose last week to 117, and showed an excess of 33 over the number in the corresponding period of last year. The causes of 18, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·0 and 26·4 per 1000 in the two preceding weeks, declined again to 24·9 during the week ending Oct. 20th. During the past four weeks the death-rate in the city has averaged 25·5 per 1000, the rate during the same period being 15·8 in London and 16·8 in Edinburgh. The 167 deaths belonging to Dublin registered during the week under notice showed a decline of 10 from the number in the preceding week, and included 19 which were referred to the principal zymotic diseases, against 36 and 21 in the two preceding weeks; of these nine resulted from diarrhœa, five from "fever," three from diphtheria, and two from whooping-cough. These 19 deaths were equal to an annual rate of 2·8 per 1000, the zymotic death-rate during the same period being 1·7 in London and 1·5 in Edinburgh. The fatal cases of diarrhœa, which had been 36 and 21 in the two preceding weeks, further declined last week to 19. The deaths referred to different forms of "fever," which had been three and four in the two preceding weeks, further rose to five last week. The three deaths from diphtheria showed a marked increase over the numbers in recent weeks. The 167 deaths in Dublin last week included 36 of infants under one year of age and 32 of persons aged upwards of 60 years; the deaths both of

infants and of elderly persons showed a decline from the numbers recorded in the preceding week. One death from violence and four inquest cases were registered, and 55, or nearly one-third, of the deaths occurred in public institutions. The causes of 9, or more than 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON WILLIAM GEORGE JACK has been placed on the retired list of his rank. Surgeon M. W. Falkner is placed on the retired list.

The following appointments are notified:—Fleet Surgeon C. E. Geoghegan to the *Glory*; Staff Surgeon H. Harries to the *Nile*. Surgeons: H. Huskinson and J. G. Wallis to the *Glory*; J. G. Corry to the *Condor*; E. T. Burton to the *Sandpiper*; L. A. Baiss to the *Woodcock*; R. A. Ross to the *Monarch*, additional for Ascension Hospital; and C. H. J. Robinson to the *Excellent*.

ROYAL ARMY MEDICAL CORPS.

Captain H. C. French has been transferred from the Mhow district to the Nagpore district and Captain W. Tibbits from the Nagpore district to the Mhow district. Major F. J. Greig has taken over medical charge of staff and departments in Dover.

INDIA AND THE INDIAN MEDICAL SERVICES.

Lieutenants to be Captains:—John George Patrick Murray, Samuel Anderson, Francis Hope Grant Hutchinson, James Leslie Marjoribanks, Alexander Fenton, James Allen Dredge, and Robert Welland Knox. Lieutenant-Colonel Edgar Geer Russell, Bengal Establishment, retires.

TRANSVAAL WAR NOTES.

Surgeon-Major Davies, Imperial Light Horse, has arrived invalided at Plymouth from South Africa.

The following sick or wounded officers have left South Africa for England:—Lieutenant-Colonel Irvine, R.A.M.C., in the *Britannic*, and Major Reade, R.A.M.C., and Civil Surgeons E. Laming Evans and Day in the *Kinfauns Castle*. These vessels left Cape Town on Oct. 6th and 11th respectively.

The *Saxon*, with members of the medical staff of the Welsh Hospital on board, arrived at Southampton on Oct. 19th.

The Welsh Hospital, which was located at Springfontein, was handed over to the Government on Sept. 30th as a convalescent hospital. Four members of the staff have died. The hospital was visited several times by Lord and Lady Roberts.

THE MATERIAL SUSCEPTIBLE TO ENTERIC FEVER IN INDIA.

The Sanitary Commissioner with the Government of India in his annual report for 1898, in commenting upon a table which gives some information regarding the relation of admission from enteric fever among European troops serving in India to age and length of residence in that country puts the matter very succinctly and in a striking light. The age-period 20 to 25 years included 51 per cent. of the total strength of the army, and in the same period the liability to fall sick from enteric fever was greatest, 46 per cent. In the succeeding periods the liability rapidly declined. Again, though 18 per cent. of the men of the army were of less than one year's service in India, 18 per cent. of more than one and less than two years' service, and 18 per cent. of more than two and less than three years' service, yet the liabilities of the men of these three equal percentages to contract enteric fever were respectively 43, 18, and 12 per cent.

CHINA.

From a military point of view matters are apparently stationary in China. The allied troops are working north and south of Paotingfu. It was reported that Count von Waldersee had been suffering from a mild form of dysentery which had, however, only caused a comparatively slight and temporary indisposition. The 4th Brigade from India had arrived in China. As far as the medical branch of the army serving with the Indian contingent is concerned it is believed to be ample for the requirements of the force now operating in China. From a political and Foreign Office point of view it is generally thought that Lord Salisbury's action in the matter of the Anglo-German agreement promises to be a diplomatic success. The terms of the convention offer a reasonable and practical platform for a combined international line of action, and there seems to be a growing impression among the Powers in favour of the Anglo-German agreement.

AMBULANCE RESERVES FOR INDIA.

It may probably be in the recollection of our readers that some time ago Major A. C. Yate, of the 29th Bombay Infantry, called attention to this subject, which has acquired some additional importance from the fact that an Indian force is operating in China and has had to draw on our Indian Empire for the supply of its ambulance system. Major Yate pointed out that India has an army of 70,000 British, 150,000 native, 30,000 volunteer, and 25,000 Imperial Service troops, for which she possesses no ambulance reserve whatever. This is a subject which calls for further investigation and consideration, and we are consequently glad to notice that the *Times of India* has recently called the attention of the military and medical authorities to it.

Correspondence.

"Audi alteram partem."

"THE ETIOLOGY OF SCARLET FEVER."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Sept. 29th, 1900, p. 927, there appears an article on the Etiology of Scarlet Fever by Dr. William J. Class of Chicago, in which he attacks a communication of ours on the same subject which appeared in the *Berliner Klinische Wochenschrift* of July 9th, 1900. He expresses himself in what seems to us a rather excited tone, as if he thought that his communications, which appeared in an American journal, had not received appropriate credit from us. For this there is not the least possible reason. From a perusal of our publication the reader will readily be convinced that, so far as lay within the bounds of possibility, account is taken in our article of a wide range of literature. Notwithstanding the difficulty, a certain number of foreign journals were carefully perused, among them a goodly number of American publications, but we are sorry to admit that it is only through the article in THE LANCET that Dr. Class's work became known to us. Dr. Class must be ignorant of the customs of earnest Germans, and especially of our work, if he thinks that we wish to rob him of the merits of this investigation.

As far as we are concerned, it is sufficient for us to see the results of one of the most obscure and difficult points in the pathology of childhood enlarged. Far from any feeling of jealousy we would consider ourselves most fortunate if our results should coincide with those of an investigator who has worked along the same lines while so widely separated from us. This would ascertain the importance of both. It is, however, quite impossible to render an absolute judgment upon the coincident results, without a comparison of the cultures. In one thing we oppose Dr. Class and strongly declare that we have obtained absolutely pure cultures, and if we have met with different forms, diplococci and streptococci, the question may be raised if our results conform with those of Dr. Class. This difference will demand a further solution, and perhaps is to be explained in the differences of the culture-media.

In regard to the experiments of Dr. Class with larger animals, especially with the infection of scarlet fever or a similar disease upon swine, we are very glad that if his further results are successful he has advanced so far. Then one may hope to arrive at practical valuable results. In our own work we have, as mentioned, above all simply investigated into the cause of the disease which here in our Fatherland appears with such fearful devastations. Nevertheless, we thought that after our years of study at least we had shed a little light upon the subject. In consequence of the limited means at our command for laboratory work we were not in a position to carry out the experiments to the necessary, nor by us desired, extent. Now that we have interested for further work a well-appointed institute we are at the present moment eagerly engaged in testing

the results of our experiments upon a large scale and under appropriate circumstances upon large animals (horses). We are especially studying the possibility of the production of a practical remedy—perhaps a serum against scarlet fever.

We are, Sirs, yours faithfully,

Dr. Med. ADOLF BAGINSKY,
E. O. Professor of the Diseases of Children at the University of Berlin and Director of the Emperor and Empress Friedrich Children's Hospital.

Dr. PAUL SOMMERFELD,
Assistant to the Hospital.

Oct. 22nd, 1900.

*** The paper above referred to by Dr. Baginsky and Dr. Sommerfeld has been reprinted. Their work shows much painstaking investigation, and the pamphlet is well worthy of perusal by those especially interested in the subject.—ED. L.

"THE ETIOLOGY OF RHEUMATIC FEVER."

To the Editors of THE LANCET.

SIRS,—No one has read the article by Dr. F. J. Poynton and Dr. A. Paine upon the etiology of rheumatic fever[1] with greater interest and feeling of satisfaction than myself. In the brief outline they give of the history of the bacteriology of rheumatic fever they go no further back than 1892, and work done previously to this is unnoticed. They acknowledge that this history is not exhaustive and it does not appear from it that anyone in *this* country has worked at the subject. Although I think I can claim that I was the first to demonstrate bacteria in rheumatic fever in this country, and I am not aware of it having being demonstrated before in any other country, I refrained from writing to advance any priority until reading Mr. E. F. Grün's letter in THE LANCET of Oct. 13th (p. 1098) which has led me to break silence. I quite well remember Mr. Grün's letter to THE LANCET of May 7th, 1892, p. 1063, stating that he had found cocci in the blood of patients suffering from acute rheumatism when with your usual fairness you appended the following note to the letter.

"Dr. Mantle of Halifax read a paper at the British Medical Association, at the meeting held in Dublin on the Etiology of Rheumatism, considered from a Bacterial Point of View. He also published an article in 1885 on Rheumatism with Infectious Sore-throat.—ED. L."

It was, then, *eight years* before Mr. Grün's observation that I had demonstrated bacteria in rheumatic fever.

Being thrown for some years into the midst of a dense colliery population in the county of Durham in which infectious disease was very rife I was much impressed with the amount of acute rheumatism in the district and its apparent infective character. I also noted its association with tonsillitis of an infectious[2] and non-infectious type, as also with erythema nodosum and scarlatina[3] the latter being acknowledged a microbic disease.

This large clinical experience compelled me to come to the conclusion that we must seek a bacterial causation of acute rheumatism. After getting some instruction from Mr. Watson Cheyne in the methods of bacterial research, which was then in its infancy, I found bacteria both in the blood and joint effusions of rheumatic patients which I was able to cultivate. At the meeting of the British Medical Association at Brighton (not in Dublin) in 1886 in the section of medicine, over which Sir William Broadbent presided, I read a paper[4] in which I advanced this theory with more or less fear and trembling. As a reference to this paper will show, I stated that I had found "two kinds of bacteria, a micrococcus and a small bacillus"—cover-glass preparations of blood and serum showing cocci, singly and as diplococci and short thick bacilli also. After much difficulty I obtained permission from the Home Office to have a very limited number of experiments with cultures of the bacillus, but the two animals inoculated were practically no worse. The greatest difficulty in being allowed experimentation and other things prevented my continuing that part of the research, and I am thankful to find that it has been now clearly demonstrated by the experiments of Dr. Poynton and Dr. Paine that the diplococci alone or with other micro-organisms are the cause of rheumatic fever and its complications. It is ample repayment for much laborious work which I have bestowed upon the subject to read this and to feel that one's work has been recognised by yourselves and others, as shown by my being invited to take part in the discussion upon the Causes of Acute Rheumatism opened by Dr. Cheadle at the meeting of the British Medical Association in London four years ago and to its being referred to again this year in the discussion opened by Dr. Ewart upon the Treatment of Rheumatism at the Chelsea Clinical Society and before that in Dr. Newsholme's Milroy Lectures at the Royal College of Physicians of London.

My clinical experience continues to emphasise the truth of my theory, and it is somewhat remarkable that the bacteriology of the two diseases so closely associated as I have shown acute rheumatism and scarlatina to be should in the same number of THE LANCET, by Dr. Poynton and Dr. Paine in the case of rheumatism and by Dr. W. J. Class[5] in the case of scarlet fever, be pronounced as due to a diplococcus which has fulfilled respectively all of Koch's laws. I would again suggest that these organisms may be generically related and that one of their chief toxins is lactic acid.

I am, Sirs, yours faithfully,

ALFRED MANTLE, M.D. Durh., M.R.C.P. Lond.,
Physician, Royal Halifax Infirmary.

Halifax, Oct. 16th, 1900.

[1] THE LANCET, Sept. 22nd (p. 861) and 29th (p. 932) 1900.
[2] Infectious Sore-throat in which Rheumatism played a Prominent Part, Brit. Med. Jour., 1885, vol. ii., p. 960.
[3] Scarlatinal Rheumatism, Quarterly Medical Journal, vol. ii.
[4] The Etiology of Rheumatism considered from a Bacterial Point of View, Brit. Med. Jour., 1887, vol. i., p. 1381.

PRIVATE MUNIFICENCE TO MEDICAL CHARITIES.

To the Editors of THE LANCET.

SIRS,—In the first of your leading articles in THE LANCET of Sept. 22nd, page 882, you mention the names of several institutions founded by private munificence, but the most notable institution of all such in the United States as to the amount so given is the Leland Stanford University of California, which escaped your attention. The said institution has already received about $25,000,000 and has the strong probability of receiving within a few years almost as much more as the aforementioned endowment, all this the earnings of one man—the late Leland Stanford of California. But something still more remarkable is the founding and upbuilding of Cooper Medical College of San Francisco, California, which has already received about $600,000, the earnings of one physician and surgeon, Levi Cooper Lane, M.D., &c., of San Francisco. He is a nephew of your great London Coopers. "Blood tells!" Of course we are all proud of such men. May they increase and multiply greatly.

I am, Sirs, yours faithfully,

Austin, Texas, Oct. 5th, 1900. Q. C. SMITH.

THE TREATMENT OF SPINAL CARIES.

To the Editors of THE LANCET.

SIRS,—In your issue of Sept. 15th (p. 789) I notice the report of an address given in Canada by Mr. Edmund Owen, who therein expressed in somewhat vehement terms a disapproval of "all sorts of schemes, corsets, apparatuses and braces (as my American friends call them) for treating spinal caries without keeping the child flat." As it stands this passage expresses a misapprehension which I should like to correct. One of these spinal splints, the antero-posterior support introduced about 1850 by the late E. J. Chance at the City Orthopædic Hospital, in my experience is at least as useful an adjunct to treatment in the recumbent or prone position as either of the more recent devices, Thomas's double hip-splint with headpiece and Phelps's box, of which Mr. Owen expresses his approval. Chance's splint has, as I have recently pointed out in an article in the *Medical Press and Circular* (Oct. 3rd, 1900), a distinct advantage in that after it has done duty in overcoming muscular spasm and fixing the spine during the period of recumbent treatment the same instrument can be used when recovery is sufficiently far advanced for the patient to be allowed to sit and later to walk. In this way the period during which the patient is continuously confined to bed is shortened in some cases by many years and the patient's education is interfered with to a much less extent than when recumbent treatment alone is employed. With all deference

[5] THE LANCET, Sept. 29th 1900, p. 927.

to Mr. Owen's opinion my own experience has proved to me that in certain favourable cases when the surgeon has sufficient knowledge of mechanical therapeutic measures the patient need not be wholly confined to bed for any long period at all, but in every case when the symptoms point to activity on the part of the disease the patient should at once be put to bed or on a prone couch. For this reason it seems to me hardly proper to speak of "the modern ambulatory treatment of caries of the spine." I have notes of many cases of caries of the spine in which I have employed Chance's splint as an element in treatment. My own opinion is that the results thus obtained compare most favourably with those I have seen in cases treated by the instruments and methods that Mr. Owen advocates.

I am, Sirs, yours faithfully,
J. JACKSON CLARKE.

Old Cavendish-street, W., Oct. 13th, 1900.

"THE VALUE OF ANTI-STREPTOCOCCIC SERUM."

To the Editors of THE LANCET.

SIRS,—Anti-streptococcic serum is only supposed to be of use in streptococcic infection—that is, in cases where the streptococci have actually got into the circulation. The two cases recorded by Dr. G. S. Walton in THE LANCET of Oct. 20th, p. 1132, are undoubtedly cases of sapræmia, or septic intoxication. With reference to the first case there is no mention of local treatment for the "putrid" lochia, which were apparently the cause of the trouble. I certainly consider that proper and efficient douching would have been more efficacious in this case, and would probably have saved the patient the trouble of a relapse. I am at a loss to understand why Dr. Walton attributes the cure of this case to the anti-streptococcic serum, as large numbers of similar cases recover without any treatment whatsoever.

I am, Sirs, yours faithfully,
Newcastle-on-Tyne. R. P. RANKEN LYLE.

THE BATTLE OF THE CLUBS: A SUCCESSFUL PRECEDENT.

To the Editors of THE LANCET.

SIRS,—The fifth annual meeting of the Eastbourne Provident Medical Association was recently held, and the report read showed that the association was in a healthy and well-established condition. There are 10 medical men on our acting staff and we have a membership of nearly 4000 persons. The gross income for the year ending August 31st, 1900, was £1071 9*s.* 9*d.* Our working expenses have been reduced to 15 per cent. and the remainder goes directly to the members of the acting staff. During the year we have adopted the plan of employing only one collector instead of two; and this has proved successful, as the work is now done not only more cheaply but also more efficiently.

I am, Sirs, yours faithfully,
A. HARPER,
Honorary Secretary, Eastbourne Provident
Eastbourne, Oct. 23rd, 1900. Medical Association.

"THE NOTIFICATION OF PLAGUE."

To the Editors of THE LANCET.

SIRS,—I should like to be allowed to make a few remarks upon the annotation in THE LANCET of Oct. 20th (p. 1148), commenting upon the letters of Dr. Thomas Colvin and Sir William T. Gairdner, in which they deal with an apparent weakness in the Notification Acts. This weakness is not, I think, so great as might at first sight appear, and hardly calls for modification of the Acts as suggested by Sir William Gairdner. The certificate which is usually given by practitioners states, "I hereby certify that in my opinion such a person is suffering from a certain disease." But in actual practice a medical officer of health treats with the greatest respect a certificate upon which a query is placed after the name of the disease, and if given in good faith would certainly pass such a certificate through for payment by his authority, even though the subsequent history of the case proved the suspicion of the nature of the ailment to have been unfounded. Most assuredly would this be so with such grave diseases as plague or small-pox. Indeed, we always say that we would rather have half a dozen cases of chicken-pox notified as small-pox than miss the very earliest information of the occurrence of a single case of small-pox. It is well known that in most of our large towns an opportunity is afforded to medical men of verifying suspicious cases of diphtheria. Material is submitted for bacterioscopic examination and if no bacilli are found the practitioner in attendance is asked if he is still of opinion that he is dealing with a case of diphtheria. If he replies in the affirmative the usual steps as to isolation, &c., are taken and the case is recorded as one of diphtheria; if he replies in the negative no action is taken with regard to the notification; but in either instance he receives payment for the certificate, and it would be manifestly unfair to adopt any other course. I cannot recall ever having received a certificate not given in good faith, and I can hardly think that my experience is unusual. It is not by any means limited, for nearly 3000 certificates were addressed to me last year, and I fear this year I shall receive almost as many.

I am, Sirs, yours faithfully,
HERBERT JONES,
Oct. 22nd, 1900. Medical Officer of Health, Rhondda, South Wales.

"THE SMOKE NUISANCE."

To the Editors of THE LANCET.

SIRS,—The letter under the above heading in THE LANCET of Oct. 13th (p. 1098) does not refer to Section 21 of the Public Health (London) Act, according to which the vestry is compelled, on receipt of a memorial signed by 10 inhabitants, to take proceedings against the factory creating the nuisance. According to my experience, however, I find that the clerk of the vestry does not always take notice of such memorials, even when his own medical officer of health sympathises with the memorialists. Of course you can take out a mandamus, but is it not rather a remarkable thing that the inhabitants of a parish should be put to great expense through litigation in order to compel their own vestry clerk to do his duty?

I am, Sirs, yours faithfully,
Oct. 22nd, 1900. L. R.

*** The preventable damage to life and property from fou smoke is now recognised by the press and the public alike as being enormous. In the case of any vestry clerk acting in this way a statement of the circumstances properly vouched for should at once be sent to the press, when reform will follow.—ED. L.

THE ROYAL ARMY MEDICAL CORPS: "THE REASON WHY."

To the Editors of THE LANCET.

SIRS,—May I ask "the reason why" in the following queries with reference to the Royal Army Medical Corps?

1. Why is the "Passing-out" Examination at the Army Medical School, Netley, carried out solely by the professors of that school who are themselves the teachers of the school and not by independent examiners?

2. Why do Lieutenants R.A.M.C. become Captains R.A.M.C. without any test whatever of their knowledge of the special duties of their corps, while all other army lieutenants have to pass special tests for their captaincies? A "deadly seniority" alone ensures promotion to the captain's grade in the R.A.M.C.

3. Why is the technical examination for promotion to Majors of Captains R.A.M.C. in purely Royal Army Medical Corps military and administrative duties so unthorough, so narrow in its scope that it forms, so far as knowledge of the military and administrative duties of the Royal Army Medical Corps are concerned, a perfectly valueless test from its shallowness and superficialness? It generally consists simply of five or six written questions of babylike simplicity such as any Staff Sergeant R.A.M.C. could assuredly pass.

4. What is a Lieutenant-Colonel R.A.M.C.? He passes no examination test, writes no thesis, and produces no plan of medical field duties whatever, although his combatant brother has to undergo a special examination for tactical fitness for command before promotion. Surely an officer of the medical service should not by mere monotonous and deadly seniority, without any efficiency test whatever, reach this essentially important post? Here, again, the merest seniority ensures promotion.

5. I also desire to ask, Why is there no "*staff examination*" which officers should pass for administrative appointments, such as secretaries, and for the higher posts of the brigade-surgeon's class of lieutenant-colonels and colonels? Such a test the late Sir Thomas Crawford instituted in 1884, but being apparently without clear convictions of its high importance he bartered away this essential and valuable check for a mess of pottage by allowing officers to pass for third-rate Fellowships of third-rate and impecunious colleges and so broke down a fence, or protection, or check against unfit persons rising into those important posts. A staff examination should be at once established.

6. Last, but perhaps of more importance than any other point, why is there not a well-paid Professor of Military Medical History and Administration at the Army Medical School at Netley to teach the young medical officers the important history of the work of the medical service in all our past wars, to tell them of the experiences of the old wars in Spain and on the continent, but more than anything else to explain the most instructive history of the Crimean War, from which terrible experiences date all our efforts to develop an efficient English medical service. Campaign after campaign comes round with its wretched story of medical undermanning and shortcomings, and yet each identical difficulty arose during the Crimean War, and its bitter story is told in the volumes of history and of blue-books published on that war. These reports in our blue-books need to be summarised and published, and the officers of the Royal Army Medical Corps who aim at administrative and staff employ should surely know what these sad records say. How few of the officers of the Royal Army Medical Corps have read or really know these deplorably sad histories. It is by thus studying the past that we can guard against breakdown in the future and by efficient examinations we can guard against the "deadly seniority" which in several of the R.A.M.C. ranks absolutely ensures promotion. The State, which provides courses of instruction without number for engineer, artillery, and other military officers, does literally nothing in the way of post-graduate classes for the medical officers. Not only are these officers almost continually on foreign service, but when in England the advantages of special instruction, garrison classes on technical subjects, and post-graduate courses are denied them. How can a highly technical corps keep abreast of its work under such wretched conditions? A far more sympathetic treatment of the military medical service is needed, and we seem to look in vain for a war minister like the really great Sydney Herbert to grasp the needs of the corps and remove its many grievances. If only such a man would again appear in England what a blessing it would be!

I am, Sirs, yours faithfully,

Oct. 13th, 1900. "DEADLY SENIORITY."

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Extraordinary Rainfall in Calcutta: Heightened Mortality.—Further Increase of Plague in Belgaum, Mysore, Bombay, and Poona.—Decline of the Famine.—Vaccination in Bengal.

THE rainfall in Calcutta on Sept. 19th, 20th, and 21st was unprecedented. It flooded the city, caused great destruction of property, and rendered thousands temporarily homeless. It has since been followed by a great rise in the general mortality. The record registered is as follows:—Sept. 19th, 14·35 inches; Sept. 20th, 10·3 inches; Sept. 21st, 8·58 inches. It will thus be seen that over 24 inches of rain fell during the first 48 hours. The rainfall during the week was nearly 45 inches. 12 people were killed, 17 were injured, and 182 brick houses and 409 huts fell to pieces. During the three days succeeding the floods the mortality has more than doubled itself. This has occurred almost entirely in the eastern and southern portions of the municipal area, especially in the latter. The chief causes of death have been cholera and diarrhœa. The filtered water-supply of the city has been rendered slightly turbid, but chemical and biological examination reports that it has not become contaminated. Every pond and surface well (from both of which sources of water the native prefers to draw) has had washed into it all the surrounding accumulations of filth. There is little wonder at the increase of mortality, more especially when so many thousands have suffered from exposure.

With this disaster in Calcutta there has during the past week been a further considerable increase in plague mortality throughout India and a continuance of the cholera outbreaks in the Punjaub and in Kashmir. Up to Sept. 23rd there have been in various districts of Kashmir 3418 cases and 1578 deaths, while in the Punjaub there have been 23,158 deaths and 42,805 cases of cholera. The plague mortality throughout India has risen from 1136 to 1442, the increase being chiefly in the Bombay province, especially in the Bombay districts and in Poona city. In Calcutta deaths from plague continue about the same, but in Bombay city the mortality from plague seems distinctly to be on the increase (95 deaths and a death-rate of 67·4 per 1000). The disease has rapidly advanced in Poona, where about 50 deaths from plague are occurring daily. In Mysore it is raging severely and the mortality continues to rise. There are apprehensions that a recrudescence of plague has occurred in Patna. Several deaths have occurred and rats are reported to be dying in considerable numbers. The popularity of inoculation for plague fluctuates enormously. While it has sunk almost to nothing in Bombay city it has been performed in nearly 5000 cases in Poona during the present month. There has been nothing done in this way in Calcutta for a long time, but in the Punjaub inoculation has met with favour.

The latest famine returns continue satisfactory, as the numbers under relief are now only a little over 3,000,000. 1,000,000 are still employed on relief works and the remainder are receiving gratuitous relief. The famine in the Native States, according to official returns, has almost subsided. The Central Provinces are still severely affected.

The returns of vaccination in Bengal for the past year have recently been issued. In the towns the Compulsory Act is in force and an estimated number of 443 per 1000 children born have been successfully vaccinated. In the rural districts the number vaccinated is much less, reducing the proportion for the whole province to probably not more than one in five. This is calculating the birth-rate at 50 per 1000. As it is, no less than 2,252,521 vaccinations were performed during the year.

Referring once more to the floods in Calcutta it will be interesting to note what effect, if any, these inundations will have on the course of another outbreak of plague. A very large proportion of the *busties* of Calcutta have during the past few months been disinfected, and the floors of the huts have been soaked with solution of perchloride of mercury. The recent floods have extended throughout many of these *busties* and have swamped the floors in thousands of the dwellings. Cattle and poultry have been drowned, and it is probable that the continuous immersion for three or four days of these hut floors may have affected the rat population. It will be remembered that the first epidemic in Bombay, which commenced (officially) in September, 1896, was preceded by an excessive fall of rain during the monsoon of that year. In the opinion of many dampness of site favours the spread of plague. If this be correct Calcutta may anticipate a still more severe outbreak than it has hitherto experienced. On the other hand, at least three dry months are in hand before the period returns when a recrudescence may be expected. The monsoon rains have probably ceased.

Sept. 27th.

SUCCESSFUL APPEAL.—We heartily congratulate Dr. F. E. Paton, J.P., on the result of his appeal at the Monmouthshire Quarter Sessions on Oct. 17th against a conviction registered against him at the Abergavenny Petty Sessions. The offence charged was being disorderly in a public place at Abergavenny in September. The appeal was allowed with costs.

SUPERANNUATION ALLOWANCE.—At the meeting of the Plymouth (Devon) Board of Guardians held on Oct. 19th it was mentioned that the superannuation allowance due to Mr. R. Ellery, who had been medical officer of No. 1 District for 30 years, was £48 10*s.* per annum, but as the board had power to add five or 10 years to this it was stated that at the next meeting it would be proposed that Mr. Ellery should be granted £50 per annum.

THE UNIVERSAL EXHIBITION OF PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

THE FOREIGN AND BRITISH SANITARY SECTIONS.

AT the western extremity of the great gallery of machines, which contains no machines but is devoted to the food products of the world, a majestic flight of stairs leads to an upper gallery where the sanitary exhibits of several nations stand side by side. Below, on the ground floor, in the Swiss food section, hedged round by Swiss condensed milk, and such objects, there are two large exhibits of Swiss sanitary school furniture. Why these were not placed with similar furniture in the Swiss education section instead of being in the food department, it is difficult to say. However, when found they are worth noting. The school desks are fixed to a moveable iron frame-work. Each desk may be used as a flat table or be either slightly raised on one side for writing or placed at a higher inclination for reading. It may also be lifted like the lid of a box. It then stands vertically in front of the pupil who faces the underneath part of the table or desk, and this serves as a "black board" which, however, is painted a dark brown as this colour is thought to be more restful for the eyes. Each pupil is thus provided with a large surface on which he can write or draw with a piece of chalk. It is pointed out that when anything is drawn or written on a large scale its shape and meaning are more readily understood by little children, and, further, that drawing or writing with chalk helps to develop skill of hand. Nor is this all, for the entire desk may be raised so high that the child must stand up to write upon it. Therefore the pupil may alternately stand or sit, and rest himself by this change of posture. Underneath there is a shelf for his books. A desk of this description with a seat for two in bench form and a rest for the back, all included, costs £2. This, then, would amount to £1 per child which does not seem dear considering the variety of advantages provided. This is the desk officially adopted for the Canton of Geneva and is manufactured by M. A. Maughain.

The German Empire Sanitary Exhibits.

Ascending the steps to the gallery immediately on the left of the landing is the German sanitary section organised by Dr. Koehler, President of the Kaiserliches Gesundheitsamt, and it purports to give some idea of the sanitary works accomplished in the German Empire. This sanitary authority, the Gesundheitsamt, assists the Chancellorship of the Empire in all that relates to the medical and veterinary police, in the application of sanitary laws, and in the elaboration of new measures. It not only seeks to protect the health of human beings and of animals, however, but it also endeavours to save vegteable life. This administration occupies 5558 hectares of land to the north-west of Berlin and near to the Thiergarten, where there are a large library, laboratories of all descriptions, offices and botanical gardens for experiments with plants, a disinfecting establishment, and stables for horses and other animals. The voluminous reports of the work done here are exhibited and they contain a vast store of learning and records of important experiments and investigations. For the last 24 years the drawing up of medical statistics has been studiously pursued. Statistics from 300 towns with an aggregate of 15,000,000 inhabitants are now regularly received and compiled. Little statuettes representing the Eiffel Tower show by their increase in size the growth of the population. Thus in the two great towns of the Empire in 1816 there lived 344,000 persons, in the six great towns in 1855 there lived 1,122,209 persons, and in the 28 great towns of the Empire in 1895 there were 7,276,987 inhabitants. Then whereas 84 years ago only 14 out of 1000 Germans lived in large towns, five years ago the proportion was 139 per 1000. But such statistics are for the most part to be found with the Pasteur exhibits on the Quai d'Orsay. Here, in the Machine Gallery, is shown some of the public works bearing on public health, such as the construction of hospitals and asylums, the new model slaughter-house of Cologne, drainage-works, &c. Then there are large models of the sanatorium of Hohenhonnel on the Rhine. The mountains, the woods, the beautiful surrounding scenery of the Rhineland are shown, so that the excellence of the site occupied may be fully appreciated. The sanatorium of Oderberg, in the Harz, is less attractive, for it dominates bare common-land but is sheltered to the north-west by a thick pine-wood forest, represented very prettily by little toy trees. The vast lunatic asylum of Zschadruss, in Saxony, seems more like a wealthy suburb consisting of mansions and villas surrounded by large pleasure gardens. A small model of the operating-room of the Nuremberg Model Hospital shows the double glass roof and the distribution in all directions of water and of heat. Similar toy-like models indicate the construction of the wards, &c. As this hospital was built so recently as in 1897 it may well possess many modern improvements, and the warming, the orientation, &c., seem to have been very carefully devised.

In another compartment there is a working model of an apparatus for cleaning large filtering beds employed at Hamburg. This consists of a floater under which is suspended a concave scoop. A pivot and wire ropes placed on each side of the filter-bed enable the floater to be drawn slowly across the water and the scoop below lifts off the slimy deposit from the surface of the filtering sand. The scoop is about four feet long. The pivots are then moved four feet further on and the next portion of the filter is cleaned. Thus, the clogging of the filtering beds is easily prevented and the sand is not disturbed by men walking over it to clean it. The operation, also, is more promptly accomplished and with much less labour. Of course, the town of Hamburg exhibits plans of its new water-supply and of its various sanitary institutions. The same can be said with regard to most of the other important towns of Germany. Indeed, we have here a collective and national exhibit of sanitation in the German empire. Nothing could be more important and more interesting, but, on the other hand, it is altogether beyond the scope of a brief description. To relate what each town exhibits would mean giving the sanitary history of all these great centres, and this would fill several volumes. The only thing that can be said in a brief notice is that this section is a museum of information. If, for instance, a person is especially interested in the treatment of sewage, in the construction of public slaughter-houses, or in sanatoria for tuberculous patients, or any other special subject of this description, he will see in the German section which are the towns in Germany where something special has been attempted in regard to one or more of these problems. He will also be able to ascertain what official and other reports have been published regarding the same, and he will then be in a position to know whether it is worth while going to those towns to investigate the question on the spot.

British Sanitation by State and Municipal Authority not Represented.

Undoubtedly in regard to sanitation it is the municipal and state sanitary authorities who should be the principal exhibitors. From this point of view the position of Great Britain by the side of Germany cannot be described otherwise than as most humiliating. There are some English manufacturers who are anxious to sell closet-pans and drain-pipes and they have very good exhibits, but of the great public works that have been accomplished throughout the country, and of which we have good reason to be proud, there is not the slightest trace. Well may it be said that we are but a nation of shopkeepers, for it is only the shopkeeping phase of sanitation that is to be seen at the Exhibition. Other nations strive to show what as nations they have been able to accomplish, and municipalities seek in a similar manner to distinguish themselves. But to judge from the British exhibits it would seem as if the British Parliament had never legislated for the preservation of public health, as if the municipalities had never provided public sewers or a public water-supply, and as if, in regard to sanitation, we could only boast of a few manufacturers who seek to sell closet apparatus, flush tanks, and drain-pipes on the continent, for there is no evidence that these things are required for use in England itself. There seems to have been no public enterprise. Those tradesmen who thought they might do some business by exhibiting their products sent specimens, but anyone visiting the Paris Exhibition to ascertain what progress had been made in sanitation in Great Britain would come away as ignorant as before. If any sort of indication is obtained leading to the belief that something has been done in England this will be found in a foreign, not in any English, section. Thus, for instance, in the German

section there are mortality tables giving the average annual death-rate per 100,000 inhabitants from small-pox first for the years 1862 to 1876 then for the years 1882 to 1896. From this it will be seen that the mortality from small-pox has decreased in Prussia and Bavaria from 51·6 to 0 7, in Austria from 75·2 to 38·6, in Belgium from 79 5 to 18·2, in England from 25·6 to 2·9, and in Sweden from 26·9 to 0 5. Therefore in the German section and with the aid of German statistics an investigator would see that something must have been done in England at least in regard to small-pox, but he would find nothing in the British section to confirm this hopeful impression. Yet no nation could have made a more instructive and a more magnificent sanitary section than Great Britain if only someone in authority had taken the matter in hand. Messrs. Doulton and Co. and Mr. George Jennings have very fine exhibits, and, in their line these firms are pre-eminent throughout the world, but however excellent the sanitary apparatus which they manufacture they only represent the details of application. Millions of money have been spent in rendering both town and country more healthy, vast schemes have been carried out, the mortality has been reduced on all sides, and yet there is not at the Paris exhibition any record of this most creditable and beneficent work. It is easier to know what has been done in some pretty Italian town than what such centres as London, Birmingham, and Manchester have achieved. In such novel and important questions as the bacteriological treatment of sewage we have the careful record and maps and drawings of the experiments made in Germany, but there is no mention of the Exeter septic tank, of the Dibdin system, and of other similar trials made in England. This is undoubtedly a great omission and places British sanitary reformers in the shade by the side of their colleagues of the continent.

The United States.

The United States of America have managed matters a little better. With them, as with us, it is private enterprise that has shown the most activity and most of their exhibits are those of tradesmen anxious to sell or of private charities that are seeking to add to their list of subscribers and sympathisers. But still there are a few American exhibits that are of general interest. Thus, in the American section there is some account given of the isolation hospitals provided by various towns in the United States, accompanied with the modest assertion that not many towns have made this necessary provision for dealing with infectious diseases, but that their number is increasing. The Massachusetts Board of Health exhibits its documents, its official forms for the notification of disease, &c., and it is possible to get some idea of the sanitary laws and their application in that State. There are also some interesting charts that apply to the whole of the States. One of these is a map of the States in four colours. The darkest colour shows the States where no one is allowed to practise medicine unless he has passed examinations imposed by the States. The next colour gives the States where certain diplomas are accepted and others rejected. These two colours cover about half the country and comprise the most important States. The other two colours, covering mainly in the centre, south and east, indicate first the States where any sort of diploma is accepted, and secondly, those states where no diploma at all is required. Another map shows the number of medical practitioners in the different States. A third map gives the expenditure per head during the year 1898 of the Board of Health. Very few States exceed two cents, many more vary from one to two cents, and for far the greatest number the taxation for sanitary purposes does not equal one cent. per head per annum, and there are actually some States where there is no tax, no public expenditure whatsoever for health purposes. Two more maps give the percentage of population supplied with public water in 1860 and again in 1897. In the former period public waterworks seem to have existed only in the north-eastern States, but now there has been a great increase of waterworks throughout the country, though evidently much remains to be done. Finally there is yet another map which shows the percentage of persons who in the various States live in sewered towns. It is not necessary to point out that it would have redounded to the credit of Great Britain if similar maps, giving similar details, had been exhibited in the British Sanitary Section. By the side of the few public exhibits in the American section there is quite an army of private charities, hospitals, asylums, and homes, of societies for improving the condition of the poor, and of societies for the prevention of cruelty to children and to animals, &c. Some of these are strictly denominational. Thus we find a model of the Presbyterian Hospital of New York City and another of a children's hospital. There does not seem to be anything of any particular interest, technically speaking, in these exhibits; their object is rather that of exciting the charitable feelings and the generosity of visitors.

To the technician the large and varied exhibits of American stoves and warming apparatus may prove of more interest. In any case the Magee Furnace Co. have received the gold medal. The air passes inside the outer casing of this stove and can be delivered at a temperature of about 100° F., so that it is not burnt or super-heated. Then there is the New York Blower Co. which shows a fan for propelling warmed air into buildings. It is maintained that if revolving fans fit tightly in the drum in which they are placed they only churn up the air and do not send it forward and therefore a much shorter blade for the fans is employed. With regard to radiators and water and steam coils the Webster system professes to regulate the temperature so that the radiators shall not be too hot. In a word, there are many stoves and processes for warming and ventilation which profess to possess many virtues, and it should be possible to learn a good deal from the United States, for with the very lofty houses in America and the severity of the winter there the problem must present many difficulties. Still it would be somewhat hazardous to pronounce an opinion without making practical experiments. In regard to drainage there are but two firms exhibiting and one of these, the Standard Manufacturing Company, has its exhibits in the midst of the furniture on the Esplanade des Invalide, more than a mile away from the sanitary section. Though I went all this distance to see this exhibit all the attendant could tell me was that he had nothing new to show. Nor did I find anything particular that was new with a rival firm, the J. L. Mott Iron Works of New York, that exhibits a very beautiful bath-room in the sanitary section. The white enamel, the pale blue curtains, and the plentiful supply of electric light produced a charming effect and as a luxurious display it attracts the gaze of many visitors, and it has been awarded the gold medal.

Paris, Oct. 22nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Formal Opening of the Queen Victoria District Nurses' Central Home.

ON Oct. 19th the Central Home of the Liverpool Queen Victoria District Nurses' Association, the munificent gift of the David Lewis Fund, in commemoration of the Queen's Diamond Jubilee, was opened by Mrs. William Rathbone in the regretted absence of her husband, Mr. William Rathbone the well-known Liverpool philanthropist. The nucleus of the buildings consisted of a large detached house which, partly by re-arrangement and partly by the building of an additional wing, has been converted into a suitable administrative building. Mr. Ben. W. Levy, trustee of the David Lewis Fund, presided over a representative gathering, including the Lord Mayor and Lady Mayoress, the Rev. Dr. Peile (the master of St. Katherine's), and others. No public charity has ever been administered with less ostentation than the David Lewis Fund, which has provided so many comforts for the benefit of the working-classes of Liverpool and Manchester. At present there are at work on behalf of the association 37 nurses, the maintenance of each, together with the necessary medical appliances and the cost of extra nourishment often requisite for the patients, would cost about £140 per annum. £23,000 had been subscribed by the Liverpool public on behalf of the funds of the association, but the whole of this amount would not be available for the extension of the work owing to various causes. The annual subscriptions so far have been about £300, the greater part of which had been contributed by a few individuals, so that if the work is to be successfully carried on a more extensive subscription list is absolutely necessary.

Generous Gift to the Royal Infirmary.

Mr. George H. Melly, a member of the committee of the

Royal Infirmary, has generously provided for the wards of the infirmary an electric installation at a cost of about £800.

Biennial Dinner of the Medical Faculty of University College, Liverpool.

The biennial dinner of the medical faculty of University College took place on Oct. 13th at the Exchange Station Hotel. The chair was occupied by Sir William Mitchell Banks. The guests included the Lord Bishop of Liverpool the Lord Mayor of Liverpool, Dr. Oliver Lodge, principal of Birmingham University, and 150 other gentlemen. The dinner was highly successful.

Proposed Isolation Hospital for Hoylake and West Kirby.

The Hoylake and West Kirby District Council have approved of a recommendation of the Health Committee to appoint a sub-committee to consider the proposed increased accommodation at the Wirral Joint Isolation Hospital and to report as to the advisability of the Council providing and maintaining an infectious diseases hospital for the district.

Thompson-Yates Laboratories' Reports, October, 1900.

The first part of the third volume of the Thompson-Yates Laboratories' Reports contains articles from Professor Rubert Boyce, Dr. Balfour Stewart, Dr. A. S. F. Grünbaum, Dr. J. H. Elliott, Dr E. W. Hope, and Miss Chick. Dr. Balfour Stewart, assistant bacteriologist to the Liverpool Corporation, contributes a most interesting article on "The Distribution of Bacillus Enteritidis Sporogenes." Miss Harriette Chick, 1851 Exhibition Scholar, treats of the "Distribution of Bacterium Coli Commune" in a very able manner. Professor Boyce's article upon the "Two Species of 'Fungus' commonly found in Sewage Contaminated Water" is well worthy of perusal. Dr. Hope's article exposes the inadequacy of the existing Food and Drugs Act. The volume is apparently a public health number and shows the amount of work which is being carried on in the pathological department of University College in the cause of public health under the able tutelage of Professor Boyce. It is pleasing to find the type increased in size, whilst the illustrations are exceptionally good. Volume III., like its predecessors, was issued from the University Press of Liverpool, and is edited as usual by Professor Boyce and Professor C. S. Sherrington, with the coöperation of the assistants in the departments of pathology and physiology.

Oct. 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

In Memory of Professor Rutherford.

A BEAUTIFUL stained-glass window has been placed in Ancrum parish church in memory of the late Professor Rutherford, professor of physiology for five years in King's College, London, and for 25 years in the University of Edinburgh.

Arthur Andrew Jamison, M.D. Glasg., M.R.C.P. Lond.

Dr. Arthur Andrew Jamison, who died on Oct. 17th at his residence, 18, Lowndes-street, Belgrave-square, S.W., at the age of 56 years, was educated at the University of Glasgow, where he graduated in medicine with honours and prizes in 1865. He was for a time assistant physician to the Dispensary for Skin Diseases, Glasgow. He was admitted a Member of the Royal College of Physicians of London in 1889.

Saturday, Oct. 27th, is fixed for the laying of the foundation stone of the Ochil Hills Sanatorium by Sir Thomas Glen Coats.

Oct. 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

THERE is a change in the representation of the Royal College of Surgeons in Ireland on the General Medical Council. Sir Philip Crampton Smyly has retired and Dr. Charles Bent Ball has been appointed in his place. Mr. J. S. McArdle has been elected a member of the Council of the College in the room of Sir William Stokes, deceased.

Royal College of Physicians of Ireland.

Sir Christopher J. Nixon has been elected to the position of President of the Royal College of Physicians of Ireland.

Housing of the Dublin Poor.

A meeting of the committee of the whole house of the Dublin Corporation took place on Oct. 22nd for the special purpose of dealing with the problems in connexion with the tenement houses and the dwellings of the very poor. A report, which was furnished by the town clerk after consultation with Sir Charles A. Cameron, expressed the opinion that the corporation could do very little more in the matter than they had already done unless they obtained by legislation power to borrow £500,000 for the purpose of clearing unhealthy areas and building dwellings for the working classes. Alderman Farrell, who filled the chair in the absence of the Lord Mayor, proposed that the corporation should proceed immediately to take steps to borrow £500,000 for the purpose of providing the required accommodation. A majority of the 40 members present were, however, of a different opinion in reference to hasty action in connexion with such an important financial matter and after discussion an amendment was carried to the effect that "the Public Health Committee be requested to prepare a return showing the area, population, and rateable valuation of the slums with a view to the preparation of a formal scheme and that the committee adjourn for a month."

Medical Men and Cricket.

On Oct. 16th, in Ye Olde Castle Restaurant, Belfast, Dr. J. W. Taylor, the captain and honorary secretary of the North of Ireland Cricket Club, was entertained by the members to a complimentary dinner to celebrate the great success of the club during the past season. About four years ago Dr. Taylor was appointed secretary of the North of Ireland Cricket Club, and by great efforts he has completely rescued it from its unsatisfactory condition, so that now it holds the premier position among cricket clubs in Ulster.

The Union Fever Hospital, Belfast.

The appointment of medical officer to the Belfast Union Fever Hospital, at a salary of £120 per annum, is to be made on Oct. 30th. It is generally thought that Dr. A. G. Robb will be appointed. The salary of the late occupant of the office was £165 per annum, but the guardians have reduced it, although the work remains exactly the same.

Health in Belfast Gaol.

At an inquest in the Belfast Gaol on Oct. 17th in reference to the death of a man from pulmonary hæmorrhage some very interesting facts came out in evidence as to the state of health of the prisoners there. The present coroner was appointed in 1893 and in that year there were no inquests, in 1894 there were two, in 1895 none, in 1896 one, in 1897 three, and in 1898 and 1899 none. It is, therefore, three and a half years since there was an inquest in the Belfast Gaol (March, 1897, was the latest occasion), and this notwithstanding the fact that the coroner by law must hold an inquest on every person who dies in prison. It speaks well that, while from 6000 to 7000 prisoners pass through the Belfast Gaol each year, there have been only six deaths in seven years. The medical officer of the gaol said that among the prisoners there was a considerable amount of bronchitis and pneumonia, but that they were entirely free from zymotic disease, notwithstanding that typhoid fever was very prevalent in the city and that the ordinary town water was used. He added that they had a good milk-supply, and that in summer, if there was any suspicion, they sterilised it. The food was good and wholesome and the prisoners were made to bathe every week. At present there was only one case of phthisis among the inmates. The coroner said that he hoped the Belfast Water Commissioners would take a note about the water. The jury found a verdict in accordance with the medical evidence, adding that every due and proper care of the deceased had been taken by the medical and other officials of the prison. The condition of the gaol and of the asylum in Belfast would certainly go to prove that in the causation of typhoid fever in that city the water cannot be a strong factor.

North of Ireland Branch of the British Medical Association.

On Oct. 18th, at the opening of session 1900–1901 of the North of Ireland Branch of the British Medical Association

at Belfast, the president, Professor Byers, delivered the inaugural address. Having thanked the members for the compliment which they had paid him by unanimously electing him president of the largest branch of the British Medical Association in Ireland, Professor Byers spoke of the great progress which the science of medicine had made in this century, instancing especially the new line of clinical and laboratory investigation of the new hæmopathology. Having given instances of the value of this method of specialised examination he then discussed very fully "the Present Position and Future Work of the British Medical Association." At the conclusion of the address a hearty vote of thanks was accorded to Professor Byers by the large meeting of members of the medical profession of Belfast and Ulster who were assembled in the museum. Papers on medical subjects by Dr. J. M. Mac Cormac and Mr. A. G. McKenna followed.

The Public Health Committee of Belfast.

At a meeting of the Public Health Committee held on Oct. 18th a deputation representing the Belfast and District Trades and Labour Council attended and urged upon the committee the necessity for the adoption of a system of bacteriological examination of milk. They advocated the system of sterilisation recommended by Dr. Henry O'Neill. Dr. O'Neill submitted his report on this question but the town clerk said that the corporation had not any legal power to expend money out of the rates for providing or working an establishment for the sterilisation of milk or the sale of sterilised milk, and that no matter how useful such a department might be, it would be necessary for the council to obtain the sanction of Parliament before incurring any expenditure upon it. Dr. O'Neill said that he had anticipated the objection and he handed the chairman a bank deposit for £300 from two "grateful parents" whose child had been successfully treated by sterilised milk as recommended by Dr. O'Neill, and who wished the scheme recommended by him to be tested for 12 months. A sub-committee was appointed to consider the matter with the view of carrying into effect the wishes of the anonymous contributors.

The Health of Belfast in 1899.

Dr. Whitaker, medical superintendent officer of health of Belfast, has just issued his report for the year 1899. The deaths during this period were 7933; of these 1005 were from zymotic disease and 2865 from phthisis (1112) and diseases of the respiratory organs (1753). These together make a total of 3870, or nearly one half of those registered as having died from all causes. Of the eight principal zymotic diseases diarrhœa has occasioned the heaviest mortality (285). The number of deaths from enteric fever was 263, a material decrease from the preceding year; while the number of cases reported was 1598. The deaths from whooping-cough were 215 and from measles 146, neither of which are notifiable. There were only 24 deaths due to scarlet fever, although 917 cases—a number largely in excess of the previous year—were notified. In fact, a mild epidemic of this fever has been prevalent throughout the year in Belfast. 61 deaths were due to diphtheria, 10 from simple fever, and only one from typhus fever. Turning to the mortality from phthisis it is really appalling to think, in spite of the recent crusade against tuberculosis, that there were 1112 deaths from this so-called preventable disease during the past year, and, what makes matters worse, the mortality from this fell malady in Belfast seems to be increasing. Climatic influences, Dr. Whitaker tells us, have little effect on the death-rate from phthisis in Belfast, the deaths being as numerous in the warm as in the cold months. There is a branch of the Society for the Prevention of Consumption in Belfast. Surely with such a ghastly death-rate as exists in Belfast from this disease it has an abundant field to work in. Belfast has a population of 350,000 and when we read that of 7933 deaths which occurred during 1899, 1112 were due to phthisis alone, surely there must be some causes at work which, considering the progress of sanitary reform and preventive medicine in recent years, demand the most careful consideration. In reference to infant mortality Belfast contrasts favourably with English manufacturing cities and towns, there being 160 deaths per 1000 births, as contrasted with 174 in Brighton, 191 in Birmingham, 206 in Manchester, and 255 in Preston. The general death-rate in Belfast for 1899 was from all causes 22·7 per 1000 and 2·9 from zymotic diseases, as contrasted with 26·4 from all causes and 3·7 from zymotic disease in Liverpool, 24·6 and 3·9 in Manchester, 21·6 and 3·2 in Glasgow, 19·8 and 2·5 in London, and 33·6 and 5·4 in Dublin. The birth-rate in Belfast was 32·7, as contrasted with 34·0 in Dublin City and 27·3 in Cork; and in Belfast the birth-rate for the year generally keeps pretty uniform. The death-rate from phthisis in Belfast in 1899 was 3·2, while it was 4·1 in Dublin City, 4·2 in Cork, 3·0 in Limerick, and 3·6 in Londonderry. The death-rate from diseases of the respiratory organs was 5·0 in Belfast, 6·9 in Dublin City, 4·5 in Cork, 3·7 in Limerick, and 5·0 in Londonderry. With reference to the mortality from enteric fever, while it is pleasing to note that it is less (263) than in 1898 (640), it is still greater than we have generally had in former years, and while in almost every other town or city in the kingdom the deaths from this cause have been steadily declining it is, unfortunately, not the case in Belfast. The disease seems not to be confined to any district of the city or to any particular kind of soil, and it is curious that "the dock district, as also Millfield and its neighbourhood, are the freest from this disease, although the former is low-lying, the houses are old, and sanitation is imperfect, and the latter district is one in which the houses are the oldest, the people generally of the poorer class, and lanes and alleys more frequent therein than in any other part of the city." Dr. Whitaker had 1370 houses in which the disease occurred carefully examined as regards their sanitary arrangements, and of these 898 had water-closets, while 472 had privies. As the houses with water-closets are four times as numerous as those with privies the proportion of houses in which typhoid fever occurred was: water-closets 1 in 63 as compared to 1 in 43 in privy houses. Dr. Whitaker again calls attention to the importance of an infectious diseases hospital and hopes that in his next report he may be able to indicate an advance towards the building of it. During the past year steady progress has been made in improving the sanitation of Belfast; it is to be hoped with Dr. Whitaker that the work of remedying the sanitary defects inherited from our predecessors will be pushed on by the Public Health Committee as rapidly as possible. Dr. Whitaker's most interesting report brings into prominence two very serious blots in the health of Belfast. These are the terrible mortality from phthisis and the continued existence of enteric fever apparently as an endemic disease. Both of these maladies being now regarded as so largely preventable their very marked existence in Belfast is clear evidence that that city is in an unsatisfactory condition from a sanitary point of view. I use the term "sanitary" in a very wide sense as indicating that the Public Health Committee of that city must make renewed and really energetic efforts to remove all the causes which in any way predispose to the existence of two diseases—phthisis and enteric fever. In all great cities now these are the maladies in the stamping out of which sanitary science is gaining its greatest triumphs. We must not lag behind in this crusade in Belfast which though so large is such a modern city.

The North Charitable Infirmary, Cork.

At a meeting of the committee of the Cork North Charitable Infirmary Dr. Nathaniel J. Hobart tendered his re-ignation as senior surgeon. Dr. Hobart spoke with much emotion and referred to his long connexion with the hospital, extending over a period of about 40 years. During that time he was happy to say that his relations with his colleagues, with the board of management, and with all connected with the administration of the institution, had been most cordial. His only reason for resigning was because the advance of years was telling its tale and he thought it prudent to husband his strength. He thanked the governors for the very great courtesy which they had always extended to him, and he assured them that he would never cease to take a deep interest in the infirmary with which he had been so long identified. There is no doubt that Dr. Hobart's resignation marks an era in the life-history of the North Infirmary. An able diagnostician and a brilliant operator Dr. Hobart did much to maintain and improve the status of the infirmary as a clinical school. His genial disposition and his *bonhomie* endeared him to more than one generation of students who are now scattered all over the globe as practitioners of medicine and who look back to the many happy days when he was their guide, philosopher, and friend. He took a keen interest in the battle of the clubs at Cork and his matured experience and prudent counsel were always at the disposal of his colleagues. The public of Cork will join with the committee of the

North Infirmary in wishing that Dr. Hobart may still have many years of happiness.

The South Infirmary, Cork.

Dr. Patrick J. Cremen has resigned the appointment of physician to the Cork South Infirmary, a position which he has held for some years, and the resulting vacancy which it is expected will occur in the extern department is the subject of much competition.

Oct. 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

An Operation on a Double Monster.

DR. CHANOT-PREVOST recently reported to the Academy of Medicine an interesting account of an operation on a double monster. The operation was performed by himself last year at Rio Janeiro on a double monster of the female sex, aged seven years. One child survived the operation, the other died five days after it. An operation had previously been attempted by another surgeon, but he had stopped on discovering that a bridge of liver formed part of the union. Radiography demonstrated clearly the visceral independence of the two children. Dr. Chanot-Prévost was also enabled by means of radiography to estimate the extreme importance of the bridge of liver-tissue. The upper portion of the union was formed of skin and osteo-cartilaginous tissue, then came the liver, and then the two abdominal cavities coalesced. The two children could walk together fairly well, but they could not both sit down at the same time. Iodides taken by the one were eliminated by both, as was also methylene blue. When one of the children had an illness the other was not affected and elevation of the temperature only existed in the one. The operation took place on May 30th, 1899. Chloroform administered to the one did not put the other to sleep. The skin being incised and the peritoneum opened Dr. Chanot-Prévost came down upon the liver. He divided the two umbilical veins. On one of the children making efforts to vomit the intestines of both were extruded. The two pericardia were adherent for some two centimetres by a fibrous band. In one child the pleura was opened but it was sutured after careful cleansing. Last of all the connecting band of liver was divided, special care being taken to check hæmorrhage. One child died five days after the operation and a post-mortem examination verified the fact that perfect hæmostasis had been procured in the divided liver which was normal. The cause of death was pleuro-pericarditis with pneumothorax. The surviving child has dextro-cardia.

The "Mal des Bassines."

This is one of the titles of an affection well known among the workgirls employed in winding silkworm cocoons. It is also known in the silkworm nurseries by the name of *mal des vers* and it is defined by medical men as the dermatitis of winders or spinners of silk from the cocoons. M. Fabre, the eminent entomologist of Avignon, whom Darwin used to hold in such esteem, by means of some recent researches has been enabled to make quite clear the pathology of this remarkable affection, and M. Vallin gave an account of the researches at a recent meeting of the Academy of Medicine. Hitherto the affection had been attributed on the one hand to the softening of the epidermis of the workgirls' fingers owing to prolonged soaking in warm water, and on the other hand to irritation brought about by the decomposition of organic matter arising from the chrysalides inside the cocoons being macerated and broken up. M. Fabre, however, has shown the existence of an urticating principle which is very irritating to the skin in the fæces of certain caterpillars and also in those of silkworm moths just escaped from the cocoon. M. Fabre brought about intense urticaria by applying these fæcal matters to his skin. Hairy caterpillars are more dangerous to handle than are smooth ones, for the fæces get entangled in the hairs. M. Fabre set himself to discover whether the poisonous substance resided in the digestive or in the urinary products and concluded in favour of the latter. As it is by means of the water in which the cocoons are soaked that the irritant substances come into contact with the hands and arms of the silk-winders, M. Vallin proposes as a preventive to add to the water a very small quantity of hypochlorites which would probably neutralise the poison without injuriously affecting the silk. The water should be frequently changed and replaced by cold water when the workgirls dip their hands into the vessels containing the cocoons.

The Experimental Treatment of Tuberculosis by Means of a Diet of Raw Meat.

Your readers are already acquainted with the experiments of M. Richet and M. Héricourt[1] relative to the use of raw meat as a prophylactic and curative substance in tuberculosis produced experimentally in dogs. Such treatment these observers have called "zomotherapy." M. Salmon of Cannes has been making experiments to verify the observations of M. Richet and M. Héricourt and has recently laid his results before the Society of Biology. He fed three lots of dogs exclusively on raw meat. The first lot which were fed on raw meat for some time before being inoculated did not live any longer than the control animals. Of the second lot, which only received raw meat 20 days after being inoculated, three went up in weight and survived for some time. A third lot received the raw meat long after inoculation, when they were already cachectic, and derived no benefit whatever. M. Salmon concluded from these experiments that raw meat given as a preventive makes an animal more resistant to tuberculosis but does not prevent the development of the disease. A dog affected with tuberculous peritonitis which was apparently cured by the administration of raw meat was found at a post-mortem examination to have a large number of active tuberculous foci. Examination of a number of dogs both healthy and unhealthy at various stages of the zomotherapeutic treatment revealed the interesting fact that this diet causes a great development of fat not only in the healthy dog but in the tuberculous dog also. This fattening appears to be the cause of the animal being able to offer resistance to the infection of the tubercle bacillus. M. Bouchard reminded the meeting that a diet of raw meat had upon many occasions given rise to a variety of tuberculous affections without giving any really good results. The apparent cures obtained by M. Richet and M. Héricourt prove that the dog, a carnivorous animal, is affected by a diet of raw meat differently to the manner in which a man is affected by the same diet.

Oct. 24th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Illness of the Empress Frederick.

NOT long ago it was rumoured that the health of the Empress Frederick was far from being satisfactory, but as she was seen driving and walking in the neighbourhood of her residence at Friedrichshof near Homburg and as no reliable information was forthcoming the unfavourable reports gradually came to be looked upon as unfounded. The public were therefore the more alarmed when it was eventually made known officially that the Empress was so seriously ill that the whole Imperial family and the Duke and Duchess of Connaught had arrived at Homburg. Moreover Professor Renvers of Berlin, who had been consulted on several previous occasions, was again asked to see her at once and to stay at the Castle. An official bulletin describes the disease as neuralgia with acute cardiac debility combined with bronchitis. The patient's health has improved so much that Professor Renvers has returned to Berlin, and she is now attended only by her ordinary physician, Dr. Spielhagen. That beautiful watering-place, Homburg, so well known to English visitors, has now after the termination of the official season again become crowded—not with visitors in search of health, but with court and state officials, special correspondents, &c., and some of the hotels which had just been closed have been re-opened. According to the most recent bulletin the condition of the Empress continues to be relatively better, the cardiac action being now regular, the temperature normal, and the bronchitis decreasing.

Increase of Cancer.

The marked increase of carcinoma has for several years been engaging attention in different countries and the statistics published by Mr. W. Roger Williams in

[1] THE LANCET, June 23rd, 1900, p. 1840.

THE LANCET[1] have induced Dr. Reiche, one of the medical officers of health of Hamburg, to inquire into the mortality from this disease in that city. Dr. Reiche has published his results in the *Deutsche Medicinische Wochenschrift* and the *Münchener Medicinische Wochenschrift*. He has found that in various years the deaths from carcinoma proportionately to the population were as follows: in 1872 one in 1396 in 1882 one in 1207, in 1892 one in 1276, and in 1898 one in 1022. This implies that of 100,000 persons living 71·63 died from carcinoma in 1872, 82·85 in 1882, 78·39 in 1892, and 97·82 in 1898. The comparative mortality in the two sexes was as follows. From 1872 to 1880 the ratio of males to females was 1 to 1·46, from 1881 to 1889 it was 1 to 1·49, and from 1889 to 1898 it was 1 to 1·29. The mortality from carcinoma has therefore increased in Hamburg, and it is remarkable that the death-rate of the male sex bids fair to become equal to that of the female sex. With regard to the organs which were affected by the disease the report states that in the male sex the organs of digestion were involved in 85·8 per cent., but in women in 40 per cent. only. In the female sex the preponderance of cancer of the generative system was remarkable, as 41·2 per cent. represented cancer of the uterus, the ovary, and the mamma. As to the age of the patients it was found that the greatest number of deaths from cancer occurred between 60 and 70 years of age. During the last 27 years there was a relative increase of mortality in males between 40 and 55 years of age and in females between the ages of 45 and 55 years, whilst there was an absolute increase in males above 40 years and in females above 45 years. In another article attention is drawn to the fact that the improvement in the quality of the water-supply of Hamburg which was made in 1894 has had no influence on the death-rate from cancer. Whilst the general mortality, which was between 22·2 and 25·3 per 1000 during the period from 1888 to 1891, decreased at once, and was only from 17·1 to 18·9 per 1000 during the period from 1894 to 1899, the death-rate from carcinoma continued to increase. It is interesting to compare the death-rate from tuberculosis with that from cancer. In 1872, when Hamburg had 346,210 inhabitants, 1179 deaths from phthisis and 248 deaths from cancer were recorded; in 1899, when the city had 744,132 inhabitants, 1443 deaths from phthisis and 797 from cancer were recorded, so that the ratio between the two diseases was 4·8 to 1 during the earlier period and is now 1·9 to 1. All the circumstances by which the mortality from phthisis was reduced, such as improvement of the food and the dwellings of the poorer classes of the population, were unable to check the increasing mortality from cancer. Dr. Reiche accordingly tried to find whether there was any ground for supposing that a more liberal food-supply might perhaps be the cause of the increase of carcinoma as suggested by Mr. Williams. To this end he compared the wealth of the population, the general mortality, and the mortality from phthisis and carcinoma in the different districts of Hamburg. The result was that in the district of Harvestchude, where the average income of each inhabitant was 2770 marks and the general mortality was 9·4 per 1000, the mortality from tuberculosis was 9·4 per 10,000 and the mortality from cancer was 8·0 per 10,000. In the district of Barmbeck, with an average income of 311 marks and a general mortality of 25·7 per 1000, the mortality from phthisis was 21·7 per 10,000 and the mortality from cancer was 8·5 per 10,000. From this it follows that the mortality from tuberculosis is very much less in a wealthy district than in a poor one, whilst in the case of carcinoma such differences do not exist. For phthisis the mortality varied from 25 5 to 9·4 per 10,000, according to the district, but for cancer it varied only from 11·2 to 7·1 per 10,000, so that the latter is obviously independent of hygienic and social conditions. Dr. Reiche finally states that the ratio of the mortality from cancer of the digestive organs to the mortality from cancer of the other organs has not altered during the last 27 years. The theory of Mr. Williams that the increase of cancer is connected with an increased consumption of food seems, therefore, to be unfounded. The above results obtained by Dr. Reiche are confirmed by the statistics of the Gotha Life Insurance Company. In 1875, of 42,552 persons insured 61 died from cancer (i.e., 1·43 per 1000), but in 1899 of 92,732 persons insured 219 died from cancer (i.e., 2·36 per 1000). A collective investigation on carcinoma will soon be made under the patronage of the Government by a special committee presided over by Professor von Leyden. Letters have been sent to all the medical practitioners in Germany asking them to register the cancer patients attended by them on Oct. 15th and to supply certain specified particulars regarding them.

[1] THE LANCET, August 20th, 1898, p. 481.

The First Female Medical Graduate in Germany.

It was in the year 1754 that the degree of M.D. was first conferred on a woman in Germany. The *Vossische Zeitung* of July 18th, 1754, mentions that the medical faculty of the University of Halle had granted the degree of M.D. to Mrs. Dorothea Christiana Erxlebin after she had passed the examination with distinction. The title of her "dissertation" which, according to the custom of that time, was written in Latin, was "Quod nimis cito et jucunde curare saepe fiat causa minus tutae curationis." This lady had been an apprentice of her father, a well-known medical practitioner at Quedlinburg, and as she could not matriculate at a university she learned medicine by reading only. By a royal decree of Frederick the Great she was then recommended to the Faculty of Halle as a candidate for graduation, but she presented herself only after the death of her husband. She also published an essay on the utility of learning for the female sex.

Oct. 22nd.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Swiss Medical Curriculum.

THE new regulations now in force have made the medical examinations even stricter than before and have prolonged the course of medical training to a minimum of five years; most students, however, devote six or seven years to study before going up for their final examination. There are three examinations to be passed. The examination in natural science embraces physics, organic and inorganic chemistry, botany, zoology, and comparative anatomy. The examination in anatomy and physiology allows four hours for dissection and demonstration; histological specimens have also to be prepared, mounted, and described. A written examination in physiology is required, the choice of three subjects being given; the oral examination lasts half an hour in each branch—anatomy, histology, embryology, and physiology. For the final examination—the Staatsexamen—which admits to the title "medical practitioner" (the M.D. being a superior degree), certificates are required showing that the candidate has spent five years in medical study and has attended a stipulated number of lectures and courses. In pathological anatomy the candidate has to open and examine at least one cavity of the body and answer questions on pathology; microscopic and bacteriological preparations have also to be demonstrated and mounted. Both in pathology and therapeutics and also in surgery one patient has to be examined, and a detailed account (etiology, diagnosis, differential diagnosis, and treatment) has to be given in writing, for which six hours are allowed. Half an hour's oral examination supplements this. In surgery two operations on the dead subject, together with questions on topographical anatomy, are required. In obstetrics, gynæcology, and ophthalmology from one to two hours are allowed for examination of several cases, followed by an oral examination. Then there are papers required on hygiene (four hours) and on legal medicine or mental diseases. The final oral examination gives half an hour to each candidate in general pathology, pathology and therapeutics, surgery, obstetrics and gynæcology, hygiene, legal medicine, mental diseases, and materia medica. More than half of the students serve generally in various cliniques as dressers or assistants for one or more terms to initiate themselves into practical work, the out-patient departments usually receiving special attention. The students still attend lectures on pediatrics, otology, rhinology, dermatology, and courses of ophthalmology, which, however, are not examination subjects.

Diphtheria and Albuminuria.

Dr. Zollikofer, first assistant of the Berne Medical Clinique, has investigated the connexion between albuminuria and diphtheria in 338 cases observed from Jan. 1st, 1897, to March 31st, 1900. Owing to the growing confidence felt by the public in serum treatment many slight cases are sent to

the hospital, but also many severe and hopeless cases have to be admitted. The cases are thus on an average rather severer than those treated in private practice. Tracheotomy was performed in 96 cases, which corresponds to a percentage of 28·4. The mortality only reached 10·5 per cent. of all the cases and 18·75 per cent. of the cases for which tracheotomy was performed. Albuminuria was present in 57·8 per cent. of the cases and could not be attributed to the serum injections as it was observed before the injections were given. Only in very rare cases of severe nephritis could diphtheria bacilli be demonstrated in the kidney after the post-mortem examination. The albuminuria proved to be in direct connexion with the extension and persistence of the diphtheritic membranes. Cases with gangrenous membranes proved especially severe, and all these cases, 24 in number, had albuminuria. Six of these cases (20 per cent.) succumbed to the disease. Four cases complicated by otitis media, three by severe sepsis, and 24 by paralysis of the pharynx all had albuminuria and all had been injected two or more days after the commencement of the illness. Of the tracheotomy cases 82 per cent. had albuminuria. Albuminuria is thus of the greatest value as a prognostic in determining the severity of the disease.

Zürich, Oct. 22nd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Observations by Professor Grassi on the Habits of the Anopheles.

ANYTHING from the pen of Professor Grassi relating to malaria will be read with interest. He has just published another note in the *Rendiconti della R. Accademia dei Lincei*, describing some observations made by him in September of last year and during the past summer at Grosseto with the object of controlling the results obtained last year in July and August by Koch's expedition. The latter, it may be remembered, found very few anopheletes but a very great number of culices in this city, although malaria was very prevalent, and from this fact he considered it likely that culex pipiens is also an agent in the propagation of malaria. Professor Grassi, on the contrary, has found anopheletes very abundant in the same houses where Koch had noted malaria the previous year, and he concludes from this that Koch's party were inexpert at the work of looking for mosquitoes and that their search was not made in the proper places, which are the entrances of houses and outhouses and not in the bedrooms. He found that the favourite time for the anopheles to feed at Grosseto was the 30 or 40 minutes immediately after sunset and, to a much less extent, the same time before sunrise. They take long flights in search of food and like to go away shortly after feeding, for which reason they may be said to change every 24 hours, at least during the warm weather, only very few (about 1 per cent.) being consequently found infected in the height of summer. As the weather becomes colder they remain longer and a larger proportion (about 8 per cent.) are found infected. The infected insects are apt to be conveyed passively over long distances and so spread infection to fresh localities hitherto exempt. Anopheletes are found in some places where no malaria exists as, e.g., along the Lake of Como. Their larvæ live freely in salt water, and seaside places, though usually exempt, are not invariably so. Professor Grassi, in conclusion, confirms the observations of Christophers and Stephens on the occasional presence in the salivary glands of the culex of bodies which resemble, but which he does not believe to be, sporozoites. He calls them pseudo-sporozoites.

The Protective Experiments against Malaria in the Agro Romano.

In a former letter[1] some account was given of the measures that were being taken to protect from mosquitoes the employés along certain sections of railway, as well as those in the service of the Acqua Marcia and of the electric traction companies in the Agro Romano. The houses and huts of Cervelletta and Castella were also protected, the means used being similar to those adopted by Professor Grassi in his remarkable Albanella experiment.[2] Professor Celli, who has had the supervision of the experiments, informs me that the results have exceeded expectation, all the inhabitants of the houses and huts having remained quite immune from fever while those in neighbouring houses, purposely left unprotected for the sake of comparison, were all attacked by malaria. Of the 183 railway employés who were subjected to the test only five contracted the fever, and in all of these the attacks were traceable to neglect of the simple precautions recommended. The results thus obtained have proved so encouraging to the railway companies and other employers of labour in the Agro Romano that it is proposed greatly to extend the field of operations next malaria season, employing the same system of protection by means of wire gauze. The Society for the Study of Malaria intend to bring the matter before Parliament with the object of obtaining State assistance for dealing with the disease by the methods which these recent researches have shown to be so efficacious.

Pellagra in the Province of Rome.

The occurrence of this *mal de misère*, the "Mailändische Rose" of the Germans, though known in Central Italy, has never become so prevalent there as in the northern portion of the kingdom. In the province of Rome its very existence has been unknown to people in general until the publication of the recent report of Dr. Zampa, the medical officer of health for the province, from which it appears that when the sanitary inspection was made in 1899 some 150 cases were discovered distributed throughout the district, but occurring chiefly at Onano, Piglio, Proceno, Palestrina, Cave, and Valmontone. More than one-half of these (80 cases) were found at Onano, where indeed the disease has assumed an endemo-epidemic character. The date of its first appearance in the province is uncertain, but in 1869 it was known to have already existed for some time. In 1881 there were only about 30 "pellagrosi," but in 1897 the number had risen to over 100, located principally at Onano and Piglio. No connexion has been traced between the disease and topographical conditions, the affected communes lying indifferently sometimes in the malarial, sometimes in the non-malarial, zone. The malady attacks by preference the agricultural classes, but in the rural communes does not altogether spare artisans, even those better off, the explanation being partly that less difference exists here than elsewhere in the conditions under which the agricultural and artisan classes respectively live, partly because of the widespread misery caused by the deficiency or absence of crops in some localities during the last two or three years owing to which their means of subsistence were reduced to maize alone. Onano, where the disease is most prevalent, lies amongst the hills at an elevation of close upon 1800 feet above sea-level, in a situation naturally salubrious, but its houses are so constructed for the most part as to be nothing better than damp grottoes, dirty and dark, with no ventilation whatever. The drinking-water is very scarce and after rain it is often muddy, and the only food for the poor people during the greater part of the year is "polenta," a kind of porridge made of maize meal seasoned with a little salt. The remedies proposed by Dr. Zampa consist in limiting the consumption and improving the supply of maize by exercising care in selecting and storing the grain, so that the people may get it sound, dry, and of good quality; at the same time ameliorating the insanitary conditions of the houses and their surroundings which conduce to the production of the disease; and, finally, by the appointment of a provincial commission with communal committees, such as exist in other districts where the disease is of old standing, for the purpose of collecting information as to its spread, of advising or adopting measures for its prevention, and of organising the distribution of subscriptions from public or private sources amongst its victims.

Hæmorrhagic Small-pox near Salerno.

Seven cases of "black" small-pox, one of which has already proved fatal, are reported from Nocera Inferiore on the Naples and Salerno line of railway. Much apprehension is felt lest the disease should spread and precautionary measures have been taken by the prefect in regard to the isolation of those attacked and the vaccination of the population of Nocera and its neighbourhood.

The Ostia Experiment.

The period assigned to the experiment in the Roman Campagna planned by Dr. Patrick Manson is now so near its close that the successful result of this also may be regarded

[1] THE LANCET, July 14th, 1900, p. 140.
[2] THE LANCET, Sept. 29th, 1900, p. 977.

as assured. Dr. Sambon and Dr. Low, as well as the artist Signor Terzi and the two servants who have passed the last three months with them in this highly malarious part of Italy, have not only succeeded in escaping infection thanks to the protection afforded them by their mosquito-proof house, but by their healthy robust appearance offer strong testimony to the salubrity of the much-maligned air of Ostia. After living for three months on the edge of a pestiferous swamp through the hottest and most unhealthy time they are now leaving the dreaded Campagna looking as "fit" and bronzed as if their summer had been spent in the Swiss Alps or the Scottish Highlands. In sad contrast to this pleasing picture is the condition of the inmates of the nearest peasant's house, little more than 100 yards distant from the mosquito-proof hut. Here live seven persons, all of whom have suffered from malaria during the past summer. The four whom I saw presented the sickly, anæmic, cachectic, emaciated aspect characteristic of the chronic forms of that blighting disease. All had the spleen greatly enlarged. A very cursory examination of their dwelling sufficed to reveal the source of their ills, for in the cobwebs on the walls, under the table, in every dark corner of the house, lurked numerous specimens of the fever-giving anopheles. Such a contrast as is here presented irresistibly suggests the reflection that the evil repute of many a locality branded as pestilential depends upon no real insalubrity of the place itself, inherent in its soil or in its air, but upon fortuitous, non-essential, and perhaps easily removeable, conditions. Besides attaining the immediate object of the expedition, Dr. Sambon and Dr. Low have made many interesting observations and have collected some important facts bearing upon the habits of the different species of mosquito, the position which they assume when at rest, their mode of flying, and their respective prevalence in the different months. The full report of the expedition, to the attractiveness of which the beautiful drawings by Signor Terzi will greatly add, is looked forward to with much interest.

Oct. 21st.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Accident to Professor Rieder.

A GOOD while ago the Government of Turkey, having resolved to put medical education in that country on a better footing, requested the German Government to select a competent teacher who would be able also to organise a satisfactory system of medical education in Turkey. Dr. Rieder, extraordinary professor of surgery in the University of Bonn, was chosen for the new appointment and came to Constantinople two years ago. He proved himself admirably fitted for the post and the manner in which he performed the work intrusted to him has been beyond all praise. He taught in a newly-constructed hospital at Gulhaneh in a corner of the place where the Byzantine Imperial palaces used to be; the beds are 200 in number, 40 of them being for women. He succeeded in introducing two innovations to which the social conditions prevailing in Turkey presented serious obstacles and which had baffled all previous efforts in the same direction, for he brought about the withdrawal of distinctions between patients belonging to different races and religious beliefs and he obtained the permission, so necessary to medical education, to perform necropsies on all patients dying in the above hospital. In addition to his duties as a teacher Professor Rieder was extraordinary surgeon to the Imperial palace and had general control of the building operations going on at the new medical school which is in course of erection at Haidar-Pasha near the English cemetery. The original estimate of the cost of this building was £T200,000, but Professor Rieder made such modifications in the plans as raised the estimate to £T600,000. The building is now roofed in, and he used to visit it three times a week. On Oct. 2nd, while on the third storey, the part on which he was standing gave way and he fell to the ground from a height of 49 feet, sustaining fractures of both legs and thighs, some ribs, and the dorsal spine, followed by paralysis of the lower limbs, rectum, and bladder. When the sad news became known all who were acquainted with Professor Rieder were painfully affected. Dr. Hambouroglou of the German Hospital, together with the surgeon of the German despatch vessel *Loreley*, were promptly in attendance. Dr. Zick of Hamburg and Professor Schede of the University of Bonn were telegraphed for, and Dr. Zick has already arrived. Professor Rieder has been removed from Haidar-Pasha to the Gulhaneh Hospital, where he is now lying.

The Shah of Persia.

When in Constantinople the Shah presented £T500 to the Persian Hospital there.

Archæology in the Island of Cos.

Two years ago Dr. Rudolf Herzog of Tübingen undertook excavations in the island of Cos with the view of finding the temple of Æsculapius. At a depth of 80 centimetres (32 inches) he came upon a mosaic flooring which represented Orpheus charming the wild beasts. At a depth of two and a half metres (eight feet nearly) in the neighbourhood of the church of St. Anna he found two columns and not far from them the remains of an aqueduct and a small statue of a young man. Great importance is attached to Dr. Herzog's discovery of the supposed temple of Æsculapius. The excavations are still in progress and it is hoped that many antiquities will be found.

Oct. 11th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Census in the United States.

ALTHOUGH the exact population of the United States has not yet been made public, yet sufficient has been published to make a reasonable conjecture as to an approximate estimate. It is likely that the total number of inhabitants of the United States will be found not to reach 80,000,000. The improvement in the sanitary conditions of large towns, the progress made in the conditions of life generally, and the great advances effected in the treatment of disease are doubtless adding to the average longevity of life in America as elsewhere. But notwithstanding these facts all indications tend to strengthen the view that the birth-rate is declining and not increasing. The *American Review of Reviews*, referring to this point says: "It is perhaps true that there are now some localities of considerable extent in the United States where, if it were not for the fact that there is some emigration, and also that there is a comparatively high birth-rate among the immigrants, the total population would by no means hold its own on account of the lower birth-rate among the native American element." An analytical study of the facts that the new census will disclose must throw much light upon interesting questions touching the present tendencies of population in the United States. If the statistics are to be relied upon the increase in population which was due to the excess of births over deaths was about 14 per cent. for the 10 years 1880–90; but, further, assuming the correctness of the immigration statistics for the past decade, if we accept the estimates which call for a population of 80,000,000 this year, we shall have to look to an excess of births over deaths for a gain of almost 22 per cent. To anyone familiar with vital statistics it is evident without further discussion that such a radical change in the conditions of population increase in the United States could not possibly have taken place. Even if one were to be content with estimating that we should have gained population at the same rate in the current decade as in the one preceding it would still be necessary on account of the falling off in immigration to rely upon a considerably higher rate of gain in the excess of births over deaths in order to bring up the total and there is not sufficient reason to believe that the actual census work will show any such gain. There is no doubt whatever that the birth-rate among native-born Americans has been decreasing not only steadily but even with some rapidity. The native-born population of the United States resemble in this respect the people of Great Britain and to a lesser extent those of France, in which countries although improved sanitary conditions and methods of treating disease are diminishing the death-rate, yet at the same time, and especially in the latter country, there has been a great falling-off in the birth-rate. Of course, when Great Britain is referred to, it is understood that the falling-

off in the birth-rate has as yet been inconsiderable, but that there is a tendency in that direction cannot be denied.

Yellow Fever in Cuba.

This disease has been prevalent to a somewhat alarming extent in Havana for the past two months, and especially among American residents. At the present time, although perhaps the epidemic shows signs of waning, yet the situation is still sufficiently alarming. The reports of the United States Marine Hospital Service show that there were 73 deaths from yellow fever in the week ending Sept. 1st, more than double the number of deaths from the same cause in the preceding week. During the month of September 257 cases were officially reported, with a mortality of 25 per cent.; 84 cases, according to the latest accounts, are under treatment, and 25 fresh cases have been reported within the last 48 hours. It is also rumoured that many cases are not reported as yellow fever at all, because of the non-development of albumin symptoms, although all the other symptoms are unmistakeable. The physicians are unwilling to diagnose as yellow fever the non-albuminous cases in order not to swell the yellow fever statistics. However, this statement is not authenticated. While the infection is well scattered over the entire city, the larger number of cases have occurred on the Prado and in sections of the city occupied by the wealthier classes. During the month of August work on the Havana electric car line has been under way, and extensive excavation and street grading have been performed. Whether the work necessitating the tearing up of the streets along the street car line at this time of the year is altogether reponsible for the increased amount of sickness in Havana is hard to determine. It is certain that neither yellow fever nor malaria is confined to those parts of the city in which the work is being done, and yet there has been considerable sickness among labourers, most of them Spanish and American, engaged in the construction of the car line. In the public health reports of the Marine Hospital Service for Sept. 21st is included the following extract from *La Habana Medicina*, an influential scientific review published in Havana: "The gravity of the present epidemic of yellow fever is truly alarming. A greater number of invasions probably occurred in 1895, but the general character of the disease was rather benign. In the present year, on the contrary, it assumes the utmost gravity, the mortality exceeding 30 per cent. The following are the data from the principal sanitariums of Havana for the eight months from Jan. 1st to August 21st: Quinta de Dependientes 136 cases, with 38 deaths, the percentage of mortality being 27·94; Quinta la Covadonga, 51 cases, with 20 deaths, the percentage of mortality being 39·91; Quinta del Centro Gallego, 38 cases, with 12 deaths, the percentage of mortality being 31·57; and Quinta del Rey, four cases, with three deaths, the percentage of mortality being 75. Analysing these figures, those of the Quinta de Dependientes attract the most attention; more patients have been treated there than in the other three sanitariums put together, with the fortunate result that the relative mortality has been less than in any other. As we see, yellow fever still dominates our local pathology, while other diseases sensibly diminish and with them the general mortality. It does not suffice to combat this infection with the greatest hygiene. As the principal factor against it a therapeutic agent of sure action is needed and unfortunately we do not posses it. Sero-therapy is the only source to furnish it." While possibly right in saying that a serum may be discovered which will act as an efficient antidote against yellow fever, *La Habana Medicina* is wrong in asserting that the disease cannot be controlled and even entirely extirpated by good sanitation and by methods of hygiene generally. This fact has been proved in so many instances that it is unnecessary to touch upon it further. Nothing but a thorough new sewage system which might cost any sum from £2,000,000 to £3,000 000 will effectually solve the problem of cleansing Havana and of abolishing yellow fever. If the late Colonel Waring's plans had been carried out in their entirety Havana would probably by this time be in a fairly healthy condition. It must be understood that the money for these radical remedial measures will have to be mainly forthcoming from Americans, as the Cubans themselves, being immune, care not whether the city is filthy or clean. In some of the American lay journals there is a tendency to reflect unfavourably on General Wood, but undoubtedly he has done his best with the means at his disposal.

Oct. 6th.

Obituary.

LEWIS ALBERT SAYRE, M.D., LL.D.

ONE of the best-known American surgeons, Dr. Lewis Albert Sayre, passed away at his home in New York on Sept. 21st at the ripe age of 80 years. He was born on Feb. 29th, 1820, and he graduated in medicine in 1842. He was one of the founders of the Bellevue Hospital Medical College and was its first professor of orthopædic surgery and continued to hold that chair until 1898 when the college was united with the New York University. He was then appointed emeritus professor of orthopædic surgery to the allied institutions. He was also one of the founders of the New York Academy of Medicine and of the American Medical Association, of the latter of which he became president in 1880. Dr. Sayre interested himself greatly in the sanitary affairs of New York and had much to do with the improvement of that city in this respect. But his chief reputation was acquired by his skill as a surgeon. He was the first American to perform successfully a resection of the hip for morbus coxarius in 1854, while his treatment of lateral curvature by extension and a plaster jacket is known by his name throughout the world. In 1877 he visited England for the second time as a delegate of the American Medical Association to the meeting of the British Medical Association in Manchester. He contributed largely to medical literature and was made an honorary member of the British Medical Association, the Medico-Chirurgical Society of Edinburgh, the Surgical Society of St. Petersburg and the Medical Society of Norway. Charles IV. of Sweden gave him the decoration of the Order of Wasa for his attendance on a member of the Royal Family. The *New York Medical Record*, in its obituary notice of Dr. Sayre, says: "Dr. Sayre was a typical American in every sense. Ingenious, original, and resourceful, he was ever ready to do and dare in any surgical emergency. Few in his time commanded wider and more extended appreciation of their work and no American surgeon enjoyed a better reputation than did he, whose name and fame belonged to the entire civilised world of progressive science."

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Siegenbeek van Henkelom, Professor of Pathological Anatomy in the University of Leyden. A large collection of his own and his students' original researches are published under the title of "Recueil de Travaux Anatomo-Pathologiques du Laboratoire Boerhave." He was only 50 years of age.—Dr. Eugen Kotlyar of St. Petersburg, where he was *privat-docent* of Pharmacology. He also acted as editor of a journal of Practical Medicine.—Dr. Heinrich Abegg of Dantzig, at the age of 74 years. He published a number of papers, mainly on gynæcological topics, and interested himself greatly in the establishment of seaside children's homes.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In October the following candidates passed in the subjects indicated:—

Surgery.—F. G. Aldrich (Section II.), Charing Cross Hospital; A. C. Clarke (Sections I. and II.), Manchester; C. J. E. Edmonds (Section II.), St. Thomas's Hospital; H. Jessop (Section I.) and J. R. Pooler (Sections I. and II.), Birmingham; G. M. Smith, St. Thomas's Hospital; A. H. Wade, St. Bartholomew's Hospital; J. Waters (Sections I. and II.), Middlesex Hospital; H. F. Willington, Manchester; and T. R. Wilshaw (Section II.), Birmingham.

Medicine.—A. G. H. Anthonisz (Section II.), University College Hospital; J. Black and A. C. Clarke (Sections I. and II.), Manchester; J. R. Clemens, St. Thomas's and London Hospitals; F. A. Hort, Middlesex Hospital; C. Johnson (Section II.), London Hospital and Durham; R. A. Pitter, Middlesex Hospital; J. R. Pooler (Section II.), Birmingham; F. P. Rose, London Hospital; H. V. Swindale (Sections I. and II.), Middlesex Hospital; A. J. Watson (Section II.), St. Mary's Hospital; and T. R. Wilshaw (Section II.), Birmingham.

Forensic Medicine.—J. Black and A. C. Clarke, Manchester; J. R. Clemens, St. Thomas's and London Hospitals; C. J. Marsh, University College Hospital; R. A. Pitter and H. V. Swindale, Middlesex Hospital; and T. R. Wilshaw, Birmingham.

Midwifery.—J. Black, Manchester; G. B. Dixon, Charing-cross Hospital; S. R. Dudley, St. Bartholomew's Hospital; A. W. H. Grant, Charing-cross Hospital; C. E. A. Huddart, London Hospital; C. Johnson, London Hospital and Durham; F. Robinson, Royal Free Hospital; P. G. Sheppard, Cambridge and Liverpool; J. E. Skey, Westminster Hospital; and F. I. Trimmer, London Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery: F. G. Aldrich, J. Black, J. R. Clemens, C. Johnson, J. R. Pooler, F. Robinson, G. M. Smith, H. V. Swindale, A. H. Wade, J. Waters, H. F. Willington, and T. R. Wilshaw.

OXFORD UNIVERSITY.—In a congregation held on Oct. 18th the following degree was conferred:—

M.D.—R. R. Wade, Exeter.

A CENTENARIAN.—The medical officer of health of Plymouth reports the death of Mrs. Preston who died on Oct. 6th, aged 102 years.

PRESENTATION TO A MEDICAL MAN.—At a smoking concert held on Sept. 28th by the members of the Wellington Lodge of Oddfellows at the Druid's Head, Oxford, Mr. W. Allin Thompson, M.R.C.S. Eng., was presented with a testimonial on the occasion of his recent retirement from the position of medical officer, after nearly 40 years' service. The testimonial consisted of a Tantalus liquor stand on which was the monogram, "W. A. T.," and an illuminated address in an oak frame, which expressed the appreciation and gratitude of the lodge for his long and skilful services.

UNIVERSITY OF CAMBRIDGE.—The following have been appointed demonstrators. Human Anatomy: Dr. F. C. Kempson and Dr. G. F. Rogers. Experimental Physics: Mr. C. T. R. Wilson, F.R.S., and Mr. J. S. E. Townsend.—The Gedge Prize for Physiology is awarded to J. Barcroft of King's and H. H. Dale of Trinity (equal).—An order has been obtained from the High Court varying the conditions for the Gedge Prize in such manner that advanced students of a certain standing are alone eligible.—The following have passed the examinations for the Public Health Diploma: J. E. Adams, J. Allan, W. S. Badger, W. R. Bhat, W. A. Densham, W. H. de Wytt, J. R. Garrood, H. W. G. Macleod, S. Mallannah, W. F. Moore, T. Telford-Smith, G. A. Troup, J. J. Weaver, J. H. G. Whiteford, R. S. Williams, and R. P. Wilson.—The number of students matriculating this term is 841, including 15 "advanced students." Last year the number was 888.—The following examiners for medical degrees have been appointed. Physics: Mr. Fitzpatrick. Chemistry: Mr. Sell, F.R.S., and Mr. Adie. Biology: Mr. Bateson, F.R.S., and Mr. Blackman. Pharmaceutical Chemistry: Mr. Ivatt and Mr. Purvis. Human Anatomy: Dr. Barclay Smith and Professor Wardrop Griffith. Physiology: Mr. Tuckett and Professor Starling, F.R.S. For the Natural Science Tripos Dr. Anderson and Professor Gotch, F.R.S., Oxford, have been appointed examiners in physiology, and Mr. Duckworth and Mr. F. G. Parsons examiners in human anatomy.—The number of freshmen who have entered this term at Cambridge with the intention of pursuing a course of study for a medical degree is 115. This number may be slightly increased during the term, but it is at present somewhat smaller than last year.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At the annual stated meeting of the President and Fellows of the Royal College of Physicians of Ireland, held on Oct. 18th (St. Luke's Day), the following officers were elected for the ensuing year:—President: Sir Christopher J. Nixon, M.D. R.U.I. Vice-President: Dr. Joseph Redmond. Censors: Dr. Joseph Redmond, Dr. J. O'Carroll, Mr. E. H. Tweedy, and Mr. A. N. Montgomery. Additional examiners to take the place of an absent Censor:—Medicine: Dr. H. C. Tweedy. Medical Jurisprudence and Hygiene: Dr. F. C. Martley. Midwifery: Dr. H. Jellett. Examiners for the Licence in Midwifery: Dr. J. H. R. Glenn and Mr. H. T. Wilson. Additional Examiners under the Conjoint Examination Scheme:—Biology: Dr. E. MacDowel Cosgrave. Chemistry and Physics: Dr. H. T. Bewley and Mr. E. Lapper. Materia Medica and Pharmacy: Dr. F. J. B. Quinlan and Dr. N. Falkiner. Physiology: Dr. J. Mallet Purser. Pathology: Dr. A. C. O'Sullivan. Medicine: Dr. J. Byrnie Coleman and Dr. G. J. Peacocke. Hygiene and Forensic Medicine: Mr. W. Langford Symes. College Examiners for the Conjoint Diploma in Public Health—Hygiene: Dr. F. J. B. Quinlan. Chemistry: Professor Edwin Lapper. Meteorology: Dr. Ninian Falkiner. Examiners in Preliminary Education—Science: Mr. W. E. Thrift, F.T.C.D. Languages: Mr. William Kennedy, F.T.C.D. Representative on the General Medical Council: Dr. Lombe Atthill. Representatives on the Committee of Management under the Conjoint Examination Scheme: Dr. J. M. Finny, Sir John Moore, M.D. Dub., and Dr. James Craig. Treasurer: Dr. Lombe Atthill. Registrar: Dr. James Craig. Librarian: Mr. B. G. J. Phelps. Agents to the Trust Estate: Mr. C. U. Townshend. Law Agents: Messrs. S. Gordon and Son. Architect: Mr. A. E. Murray. Dr. Martin Dempsey was admitted a Fellow of the College. In the evening the annual banquet of the President and Fellows was held in the College Hall.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADAM, T. B., L.R.C.P. & S., has been appointed House Surgeon to the Glasgow Royal Infirmary.

AINSLIE, W., M.B., Ch.B. Aberd., has been appointed District and Workhouse Medical Officer, Kington Union, vice R. A. Billiald, resigned.

BARNES, R., W., has been appointed Medical Officer for the No. 6 District of the Bridgwater Union, vice J. H. Jolley, resigned.

BERGIN, WM. M., M.B. Lond., M.R.C.S. Eng., has been appointed House Surgeon to the Royal Eye Hospital, Southwark.

BYTHELL, W. J. S., B.A., M.B., Ch.B., has been appointed Anæsthetist to the Manchester Children's Hospital, Pendlebury.

CARTER, A. H., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Assistant Medical Officer to the Infirmary, Lewisham Union, vice J. Dunston, resigned.

COSENS, F. R. S., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer, Honiton Union, vice W. V. Sinclair, resigned.

CRAWFORD, G. M., M.B., Ch.B., has been appointed House Surgeon to the Glasgow Royal Infirmary.

DOUGLAS, JOHN C., L.R.C.P. & S., has been appointed House Physician to the Glasgow Royal Infirmary.

FERGUSSON, H. C., M.B., Ch.B., has been appointed House Surgeon to the Glasgow Royal Infirmary.

FINDLAY, LEONARD, M.B., Ch.B., has been appointed House Physician to the Glasgow Royal Infirmary.

FORMAN, BERNARD GILPIN, M.B., Ch.B. Edin., has been appointed Assistant House Surgeon to the Dumfries and Galloway Royal Infirmary.

GARROW, A., M.B., Ch.B., has been appointed House Surgeon (Ophthalmic) to the Glasgow Royal Infirmary.

GUNSON, CHARLES HERBERT, M.B., Ch.B. Glasg., has been appointed Resident Surgeon to the North Cambs. Hospital, Wisbech.

HARRINGTON, A. W., M.B., Ch.B., has been appointed House Physician to the Glasgow Royal Infirmary.

HIGHMOOR, R. N., C.M. Edin., has been appointed Medical Officer for the Fransham Sanitary District of the Mitford and Launditch Union, vice R. B. Newton, resigned.

HOBART, N. H., M.B., B.S. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer, Cork North Infirmary, vice N. J. Hobart, resigned.

LEITCH, J. W., M.B., Ch.B., has been appointed House Surgeon to the Glasgow Royal Infirmary.

LEYS, NORMAN M., M.B., Ch.B., has been appointed House Physician to the Glasgow Royal Infirmary.

MCDONALD, ELLEN S., L.R.C.P. & S., has been appointed House Surgeon (Gynæcological) to the Glasgow Royal Infirmary.

MONTGOMERY, W. P., M.A. Oxon., B.S., M.B. Lond., F.R.C.S. Eng., has been appointed an Honorary Assistant Surgeon to the Royal Infirmary, Manchester.

NAISMITH, J. H., M.B., M.S. Glasg., has been appointed Medical Officer of Health for the Tow Law Urban Sanitary District, vice W. Tiplady, resigned.

O'SHAUGHNESSY, T. H., M.D., M.S. Irel., has been appointed Assistant Medical Officer for the Workhouse of the Parish of Nottingham, vice F. A. H. Clarke, resigned.

RAINBIRD, P. H., L.R.C.P. & S., has been appointed House Surgeon to the Glasgow Royal Infirmary.

ROBERTS, EDWARD W., M.R.C.S., has been appointed House Physician to the Glasgow Royal Infirmary.

RUSSELL, MATILDA H. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Officer to the Infirmary of the Parish of St. Giles, Camberwell, vice Miss L. G. Anderson, resigned.

SCOTT, J. H., M.R.C.P., L.R.C.S. Irel., has been appointed District Medical Officer, Eton Union, vice T. Miller, resigned.

SIMMONS, S. S., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer, Croydon Union, vice T. R. B. Parker, deceased.

SMITH, H. OSWALD, M.B., Ch.B., has been appointed House Surgeon to the Glasgow Royal Infirmary.

THOMSON, R. S., B.Sc. Glasg., M.D., has been appointed Professor of Practice of Medicine, Anderson's College Medical School, Glasgow.

WATSON, A. L., M.B., Ch.B., has been appointed House Surgeon to the Glasgow Royal Infirmary.

WILD, R. B., M.Sc. Vict., B.Sc., M.D. Lond., has been appointed an Honorary Physician to the Cancer Pavilion and Home connected with Owens College, Manchester, vice D. J. Leech, deceased.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon for twelve months. Salary £100 per annum, with board, residence, and laundry.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Assistant Anæsthetist. Medical women eligible for the post.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £120, rising to £150 by £10 annually, with board, furnished apartments, &c.

COUNTY ASYLUM, Chester.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board (no liquors), lodging, and washing.

DOWN DISTRICT ASYLUM, Downpatrick.—Assistant Medical Officer, unmarried. Salary £150, rising £10 annually to £200, with furnished apartments, board, washing, and attendance. Apply to the Resident Medical Superintendent.

DUNDEE ROYAL LUNATIC ASYLUM.—Medical Assistant.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, London.—Resident Medical Officer (not a female), registered, speaking French, and unmarried. Salary £80 a year, with full board.

GUEST HOSPITAL, Dudley.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, residence, board, and washing.

HEREFORDSHIRE RURAL DISTRICT COUNCILS.—Medical Officer of Health for the Combined Districts for three years. Salary £530 per annum including expenses and disbursements. Apply to the Clerk, Hereford.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, London.—Four vacancies for the office of Senior Clinical.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London.—Ophthalmic Surgeon.

JARVIS' CHARITY, Staunton-on-Wye, Hereford.—Medical Officer, to reside in house provided by the Trustees, with garden and good stabling rent free. Salary £150 per annum and certain allowances.

JENNER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Gardens, London.—Assistant in the Department of Pathological Chemistry. Salary £300.

KENT COUNTY ASYLUM, Chartham, near Canterbury.—Second Assistant Medical Officer, unmarried. Salary begins at £175 per annum, with board, quarters, washing and attendance. Also Third Assistant Medical Officer required in January next. Salary begins at £125, with emoluments as above.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Resident Medical Officer for one year. Salary £200 per annum, with board, lodging, and washing.

LEEDS GENERAL INFIRMARY.—Resident Obstetric Officer. Board, lodging, and washing provided. Also two House Physicians for six months. Board, lodging, and washing provided.

NORTHUMBERLAND COUNTY ASYLUM, Morpeth.—Assistant Medical Officer, unmarried. Salary £125 per annum, rising £10 yearly to £155, with board, lodging, and washing.

NORTH LONDON HOSPITAL FOR CONSUMPTION, Hampstead.—Senior and Junior Resident Medical Officers for twelve months. Honoraria £100 and £60. Apply to the Secretary, Offices, 41, Fitzroy-square, W.

PARISH COUNCIL OF TINGWALL, WHITENESS, AND WEISDALE.—Medical Officer. Salary £40 per annum, which includes the cost of medicine for paupers belonging to the parish. Apply to the Inspector of Poor, Scalloway, Shetland.

PARISH OF ST. MATTHEW, Bethnal Green, London.—Clinical Assistant at the Infirmary, Cambridge-road, N.E., for six months, unmarried. Salary at the rate of £40 for the six months, with board, lodging, and washing. Apply to the Medical Superintendent of the Infirmary, Cambridge-road.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board, lodging, and washing.

ROYAL COLLEGE OF SURGEONS, Edinburgh.—Conservator to the Museum. Salary £105. Apply to the Clerk of the College, 54, George-square, Edinburgh.

ROYAL INFIRMARY, Sheffield.—House Physician. Salary £100 per annum, with board, lodging, and washing.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Ventnor, Isle of Wight.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging in the hospital. Apply to the Secretary, London Office, 34, Craven-street, Charing-cross, W.C.

ROYAL SEA BATHING HOSPITAL, Margate.—Resident Surgeon. Salary £100, with board and residence. Apply to the Secretary, Royal Sea Bathing Hospital, Offices, 30, Charing-cross, London.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

SOUTHPORT CONVALESCENT HOSPITAL AND SEA BATHING INFIRMARY.—Resident Medical Officer, unmarried. Salary to commence at £150 per annum.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies as Certifying Surgeons under the Factory Acts at Diss, in the county of Norfolk; at Broughton Astley, in the county of Leicester; and at Rahan, in King's County.

WOLVERHAMPTON EYE INFIRMARY.—House Surgeon for twelve months. Salary £70 per annum, with rooms, board, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BLUMER.—On Oct. 19th, at St. Mary's-grove, Stafford, the wife of F. Milnes Blumer, M.B., of a son.

BROCK.—On Oct. 14th, at Via Veneto, B, Rome, Italy, the wife of G. Sandison Brock, M.D., of a daughter.

DRURY.—On Oct. 21st, at Grahamstown, South Africa, the wife of Edward Guy Dru Drury, M.D., B.S. Lond., of a son. (By cable.)

KENT.—On Oct. 19th, at Dorset Cottage, Bexhill, the wife of Sydney Kent, M.B., B.C. Cantab., M.R.C.S., L.R.C.P., of a son.

NEWNHAM.—On Oct. 21st, at Chandos Villa, Queen's-road, Clifton, Bristol, the wife of W. H. C. Newnham, M.A., M.B. Cantab., of a daughter.

TURNER.—On Oct. 16th, at Plympton House, Plympton, South Devon, the wife of Alfred Turner, M.D. Edin., of a son.

WILLIAMS.—On Oct. 17th, the wife of Watson Williams, M.D., Victoria-square, Clifton, Bristol, of a daughter.

WITHERS.—On Oct. 17th, at Ashford, Peel-causeway, Cheshire, the wife of Percy Withers, M.B., B.S., of a daughter.

MARRIAGES.

GERVIS—STIRLING.—On Oct. 24th, at the Parish Church of St. Alfege Greenwich, Charles Berkeley Gervis, M.D., of Seaford, to Grace, youngest daughter of Thomas Stirling, of 13, Gloucester-place, Greenwich.

SCOTT WILKINSON—BELL.—On Oct. 20th, at St. Mark's Church, Kennington, by the Rev. Mr. Bankart, Charles Scott Wilkinson, son of Adam Wilkinson, M.D., J.P., of Avishaves, Shaftesbury, Dorset, to Frances Dorothy, eldest daughter of John Bell, Esq., of Newcastle-on-Tyne.

TYRRELL—LIVESEY.—On Oct. 17th, at St. Peter's, Eaton-square, Charles Robert Tyrrell Major Royal Army Medical Corps, to Agnes Laura, youngest daughter of James Livesey, Esq., of Grosvenor-gardens, S.W., and Rotherfield, Sussex.

WOOD—HARRIS.—On Oct. 17th, at Littleham Church, Exmouth, Thomas Wood, J.P. for Midlothian, M.B., C.M. Edin., youngest son of the late William Inglis Wood, Lindores, Newburgh, Fife, to Alice Elizabeth Esther, daughter of John Harris, St. Mary's Lodge, Exmouth.

DEATHS.

BROWN.—On Oct. 17th, at Holly Lodge, Brockley-road, S.E., Alexander Stewart Brown, F.R.C.S., aged 45 years.

ECCLES.—On the 22nd Oct., suddenly, at 23, Hertford-street, Mayfair, W. Arthur Symons Eccles, M.B., C.M., in his forty-sixth year.

REYNOLDS.—On the 20th inst., at Southend-on-Sea, Edward Robert Bradley Reynolds, M.R.C.S. Eng., of Highcroft, Shepherd's Hill, Highgate, and late of Highbury New Park, N., aged 65.

WOOD.—On Oct. 16th, at St. John-street, Oxford, William Dyson Wood, L.R.C.P., L.R.C.S. Edin., Medical Officer of Health for the County of Oxford.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE STUDENTS AND THE FAITH-HEALER.

THE disturbances created by medical students and other young men at certain lectures given by a crack-brained adventurer calling himself "Overseer of the Church in Zion" were what might have been expected. Becky Sharpe, it may be remembered, remarked *apropos* of her throwing back the "Dixonary," "Revenge may be wicked but it's natural." The same may be said of the proceedings of the students. Dowie, judging from the papers which he edits, "for the extension of the kingdom of God," is a person who combines a nauseous profession of religion with the practice of quack medicine as a faith-healer. He has been called by at least one newspaper neither more nor less than a swindler. It is only natural that medical students hearing their profession abused and their teachers insulted should mark their disapprobation of Dowie, though it is to be regretted that they should do so by acts which are illegal. It would of course have been much better policy to leave Dowie alone. Pretenders of all kinds are far more hurt by being ignored than by anything else, and if Dowie has paid for the use of St. Martin's Town Hall he has a right to be left in undisturbed possession of it. Rowdiness in all ranks of life is to be discouraged. But we must say from the reports in the daily press that the police do not always seem to have got hold of the foremost offenders, while certain of the convictions were secured upon very scanty evidence. During a free fight it is difficult to be certain of the culprit and the words "aiding and abetting" are capable of a wide interpretation, but if punishment was dealt out to the students simply because deterring examples were required we think that under the circumstances the students have had hard lines.

A CURIOUS TRANSACTION.

To the Editors of THE LANCET.

SIRS,—I shall esteem it a favour if you will kindly state your opinion upon the following transaction. A purchased a practice (a country branch) from B, a certain sum of money being paid down, the remainder to be paid in a manner mutually agreed upon. In the practice is a club appointment which A understood was to be transferred to him, and which is cited in the agreement legally made between A and B. Shortly after taking over the practice A was informed by *one of the members* of the club in question that he, A, was not to be the medical attendant, another practitioner, C, having been appointed, as B had tendered his resignation. This statement led A to make inquiries into the matter, when he found that B had resigned the appointment, and was merely working out the stipulated term of notice between himself and the club. As this notice was given *prior* to the actual purchase of the practice by A, he naturally feels that he has been very unfairly dealt with by B, who gave him no information whatever about the matter. A called upon B in order to talk matters over and, if possible, to come to a friendly arrangement, but the latter acted in a most high-handed manner and refused to discuss the subject. I may here mention that C is a practitioner residing in the same town as B, with whom he is on intimate terms. Under the circumstances ought not B to allow A a certain sum, to be agreed upon, in consideration of transferring an appointment which he had resigned prior to negotiations, and which therefore he had no right to have cited in the agreement, without previously giving A full information upon the point? I am, Sirs, yours faithfully,

Oct. 22nd, 1900. ALPHA.

*** If B has purported to sell to A a club practice which it was no longer in his power to sell—the practice having been transferred to C—A is clearly aggrieved, and will be right to take such steps as his solicitor may recommend to obtain justice. We have only "Alpha's" statement before us, which seems to be written from A's point of view. We cannot speak more definitely without hearing B's account of the transaction.—ED. L.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—I would be much obliged if any of your readers could tell me of a home where I could send a poor woman suffering from complete paralysis with some cerebral symptoms. We would be willing to pay about from 15s to £1 per week for her. I should be very grateful for the information. I am, Sirs, yours faithfully,

Oct. 21st, 1900. PHYSICIAN.

COAL SMOKE ABATEMENT.

THE New London Brewery Company, Limited, of Vauxhall, were summoned by the Lambeth Vestry last week for "sending forth black smoke from the chimney shaft of their premises in such quantities as to be a nuisance." Inspector Perrin, for the vestry, testified that on August 2nd he watched the chimney shaft at the defendant company's premises for several hours. Dense black smoke issued at intervals for a period of 33 minutes. The officer added that in April last the defendants were similarly summoned and fined by Mr. Hopkins. It was urged, in mitigation of penalty, that every effort had been made to subdue the smoke, and an apparatus had been just introduced which it was thought would prove effective. Mr. Sheil said he should inflict the full penalty of £10, adding that in his opinion the law was not strong enough on this matter. His worship, we think, does not do himself or the law justice. The law is all right but it wants setting in action and magistrates like himself to see it carried out.

"DIFFICULTIES UNDER THE INFECTIOUS DISEASE NOTIFICATION ACT."

To the Editors of THE LANCET.

SIRS,—I have been reading the little book, "Difficulties Under the Infectious Disease (Notification) Act" and on p. 22 I find that there has been some question raised as to whether medical officers of health should be paid for notifying cases where they are the medical attendant. If you refer to Section 11 of the Act you will there find that there is no doubt on the matter whatever, as it is distinctly stated that they are to be paid the fee "to which he would be entitled as if he were not such medical officer."

I am, Sirs, yours faithfully,

R. E. BURGES, M.D. R.U.I,
Medical Officer of Health, Hoole Urban District, Cheshire.

Chester, Oct. 11th, 1900.

A MIDWIFE FINED FOR GIVING A FALSE BIRTH CERTIFICATE.

AT the South-Western Police Court, Sarah May Bellinger, a certificated midwife, of 38, Carpenter-street, Battersea, was fined £2 15s., including costs, on Monday last, for giving a false certificate relating to the birth of a child. Mr. Lewis prosecuted for the Treasury, the proceedings being instituted at the instigation of Mr. A. Braxton Hicks, the coroner for the South-Western division of London. Mr. Braxton Hicks is to be congratulated upon the stand he has taken in this matter. If a certificate concerning a birth or a death is to be any safeguard to the public it must be given with all proper circumspection and in accordance with proper legal restrictions. It is gratifying to know that the coroner has been much assisted in his work against irregular certificates by the burial authorities and undertakers, for these officials have in other times and places been far too easy-going.

ADHESIVE PLASTER FOR PUNCTURED TYRES.

To the Editors of THE LANCET.

SIRS,—I should be glad to hear if any of your readers who happen to be cyclists have tried any adhesive plaster for mending punctured bicycle tyres and what success has attended them.

I am, Sirs, yours faithfully,

Oct. 23rd, 1900. CYCLIST.

A POINT IN LUNACY POOR-LAW.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if you will tell me through your columns whether a magistrate may give a detention order for any person of unsound mind to be detained "not more than 14 days" in a workhouse *without a medical opinion or certificate*. The relieving officer here considers that my certificate is not necessary if the magistrate forms his own opinion as to the lunacy. Besides seeming to me a relaxation of the safeguards for lunatics against wrong detention I do not mind admitting that it is also a question of fees, the responsibility in any case practically resting upon me. I have to thank you very much for your opinion given in other cases and shall be much obliged if you can answer this case. I am, Sirs, yours faithfully,

Workhouse, Hampstead, Oct. 22nd, 1900. R. CLAUDE TAYLOR.

*** The action of a lunacy justice in signing a 14 days' detention order without first summoning a duly qualified medical practitioner to examine and report upon the alleged lunatic is distinctly *contra legem*. The Act expressly directs that the justice shall summon a medical practitioner to his aid and shall then proceed to examine the lunatic. The first thing which the justice has to do is to summon a medical man to examine the case. In strict law the justice cannot even visit the alleged lunatic without the medical man, though it is not usual to raise any objection to his doing so if he wishes, but to sign any order for detention is contrary both to the spirit and to the letter of the law. It is a common error for a justice new to the work, to think that he is only obliged to summon a medical man in cases which he, the justice, deems to be of unsound mind, but this is not so. His first step is to summon a medical man to his aid who reports to the justice his opinion on the case and upon that opinion only can he take any action. The medical man receives his fee for reporting upon the case whether the case be deemed to be a lunatic uncertified for removal or whether the case be deemed not to be a lunatic an be discharged or, thirdly, whether the case requires further observation under a 14 days' detention order. In any case, he receives his fee for the report and not for certifying the alleged lunatic to be either of sound or of unsound mind. Our correspondent, therefore, is correct in the first part of his letter, but he is not correct in presuming that he has any responsibility unless he is summoned by the justice. He is not responsible for the justice's ignorance of the law. This is a question for the Lunacy Commissioners or for the medical superintendent of the asylum to which a certified lunatic is removed.—ED. L.

ASSISTANT v. PRINCIPAL.

AT the Portsmouth County Court on Thursday, Oct. 11th, Frederick William Greenwood sued Harry Percival Gaston, M.R.C.S. Eng., L.S.A. Lond., to recover £16 18s. 6d., as one month's salary and commission in lieu of notice. The plaintiff entered the defendant's service in June last as an assistant, the plaintiff alleging that the agreement was a yearly one, was verbal with a written understanding, and terminable by a month's notice. He was to be paid £150 a year with a commission of not less than £1 a week. He stated that the defendant dismissed him on August 14th on the ground that they did not get on well together and declined to pay anything more than four weeks' salary and commission due. The plaintiff left the surgery and returned at night when he found the door locked against him. He returned in the morning to pack up his belongings, when, he alleged, the defendant entered his room and used threatening words and gestures. He took up a poker to defend himself, when a policeman was sent for, on whose arrival the plaintiff was allowed to remove his things. In cross-examination the plaintiff denied that he threatened to shoot the defendant. He also denied that defendant had asked for professional and social references. He had been with a medical man in Swindon, but was dismissed after two months because he was so popular that he could not get through his work. After his dismissal he advertised that he was remaining in the neighbourhood and he had done so in this instance. After being five weeks in the defendant's employ the latter produced a bond, which he did not sign as he thought it unfair. The bond restricted him from practising on his own account. The defendant said that he advertised in THE LANCET for an assistant and in reply to a telegram from the plaintiff said he must have two professional references and one social reference, and a bond not to practise within a given area. The references given were unsatisfactory, but he told the plaintiff that if he supplied proper references and signed the bond he would take him on. Proper references not being forthcoming he told the plaintiff that their relations must end, that he must go at once, and that he could fetch his things in the morning. The plaintiff came to the defendant's house at 11.30 P.M. and created a disturbance. The defendant denied that he threatened the plaintiff and said that the reason the constable was sent for was that the plaintiff had threatened to shoot him. The jury found for the defendant and judgment was given with costs.

The verdict is evidently a just one, and only one comment need be made upon the matter. The plaintiff's name is not on the Medical Register. He would seem to be qualified, because both in this case and in a previous case his principals have required from him a bond not to practise. But if he is qualified why is he not on the Register?

A COMMISSION OFFERED.

WE have received from quite a large number of correspondents the following circular letter which has been sent to them by the Century Thermal Bath Cabinet Co.,—Managing Director, A. G. Pointing.

A. G. POINTING, Managing Director. W. C. COCKSON, Secretary.

Telegrams, Thermogen, London,
Cables, A.B.C. code.

Office of Century Thermal Bath Cabinet, Ltd.,
205, Regent Street, London, W.,
October 20th, 1900.

DEAR SIR,—We appeal to you as a physician palpably interested in the health of the community and more directly in that of your patients.

With this in view, we beg to call your attention to the enclosed descriptive pamphlet of the Century Thermal Bath Cabinet.

Quite a number of medical men are interesting themselves in the Cabinet in various ways, either for their own use or advising them for patients.

It is on these grounds we ask your attention. We have the latest and most approved appliance for vapour and hot-air bathing, it being quite unnecessary for us to dilate upon the advantages over the ordinary water bathing.

We wish to approach the subject simply from a business point of view.

Many medical gentlemen are advising their patients to purchase a Bath Cabinet in preference to visiting public Turkish bath establishments. On every recommendation of that kind we are allowing a honorarium of 25 per cent. to the doctor. Again, should he require one for his own use we supply him with a Bath Cabinet complete at *half price* so that he can thoroughly test its merits.

We beg leave to submit another proposition, that if you will recommend us an agent to handle our goods, and when the agency is established in accordance with our terms, we will return to you the full amount you have already paid for your own Cabinet.

We should be pleased to have your early decision upon all or either of above proposals, and will give any further information or particulars you may deem necessary.

Yours faithfully,
CENTURY THERMAL BATH CABINET CO.

The descriptive pamphlet alluded to in the letter has as a frontispiece a picture of Regent House, Regent-street, which is stated to be the "Offices and Show-rooms of the Century Thermal Bath Cabinet Co." It contains pictures of young women "cooling off," an inapposite and unauthorised reference to THE LANCET, alleged quotations from "Sir Erasmus Wilson, the world's greatest authority," and "Sir Arthur Clark, M.D., M.R.C.S. London," and in every way reveals itself as a particularly ill-written and ignorant quack circular. When we say that the Century Thermal Bath Cabinet is claimed in the circular to cure "nervous prostration" and to "relieve ladies of irregularities and monthly pains," we have said enough to show that the business which certain members of the medical profession are being tempted by offers of commission to push has its beastly side.

It will be seen that the circular letter states that "many medical gentlemen are advising their patients to purchase a Bath Cabinet." This statement is probably false. But if any practitioners have not detected by the egregious wording of the pamphlet or the impudent offer of the circular letter the kind of people who have entered into communication with them, and have suggested to their patients to purchase a Century Thermal Bath Cabinet, we recommend them to go back upon what they have said.

THE CHARGE AGAINST A GERMAN MIDWIFE.

A GERMAN midwife is, it may be remembered, in custody upon a charge of having performed an illegal operation upon a girl who was until recently a patient at St. George's Hospital. The unfortunate girl has now died, a circumstance which may materially alter the indictment against the midwife.

THE GIFT OF PROPHECY.

THE following conversation between a medical practitioner and a small patient's mother is funny. As the medical man says in his note enclosing the conversation, "it shows how careful one is obliged to be in accepting the most simple and positive statements from uneducated patients or their relatives."

Doctor (to baby's mother): Are its bowels loose?
Mother: Yes.
Doctor: How often did they act yesterday?
Mother: Once.
Doctor: How many times to-day?
Mother: Not at all.
Doctor (surprised): Then how can you possibly say they are loose?
Mother: Because they are going to be.
Doctor: How on earth do you know?
Mother: Because I have given it a dose of senna.

D.—1. Only persons on the Register have a legal right to practise. The gentleman with the degrees named is only registrable in the colonial list (see Medical Register, Table J.).—2. Yes, as a duly qualified medical man he can sign the certificate, and as an M.D. he can sign it as such.

Nomen has not made his meaning quite clear. If he communicates with the Society of Apothecaries of London we are sure that he will be able to learn what exactly is the position which the Society intends to take up with regard to the titular style of its Licentiates.

Fiat Justitia.—We have not heard A's side. The case, as stated (presumably) by B, is clear. B has committed no breach of etiquette.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 25th, 1900.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall	Solar Radiation Vacuo	Maximum Temp. Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Oct. 19	30·12	N.	0·02	88	55	47	47	48	Cloudy
,, 20	30·19	N.	...	66	51	46	48	48	Cloudy
,, 21	30·23	N.	...	84	50	42	42	45	Cloudy
,, 22	30·54	N.	...	65	51	41	41	44	Cloudy
,, 23	30·35	S.W.	0·02	67	58	43	48	49	Overcast
,, 24	30·27	W.	...	67	59	49	53	54	Overcast
,, 25	29·80	S.W.	0·07	69	57	53	55	56	Raining

During the week marked copies of the following newspapers have been received: *Northampton Herald, Carnarvon Herald, Cambridge News, Bailey Reporter, Newcastle Leader, North Wales Chronicle, Wigan Observer, Portsmouth Times, Manchester Evening News, Bradford Observer, Wood Green Herald, Dundee Courier, Glasgow Herald, Blackburn Standard, Indicator, Public Health Engineer, Aberdeen Free Press, Builder's Journal, Times of India, Pioneer Mail, Citizen, Architect, Scotsman, Builder, Liverpool Daily Post, Leeds Mercury, Bristol Times and Mirror, Spectator, Yorkshire Post, Free Lance, Cape Times, Bristol Mercury, Local Government Chronicle, Mining Journal, Reading Mercury, Surrey Advertiser, Essex County Standard, Local Government Journal, Retford News, St. Andrew's Citizen, Oxford Times, Norfolk Daily Standard, Isle of Wight County Press, Huddersfield Chronicle, Meat Trades Journal, Alliance News, Hertfordshire Mercury, Kentish Mercury, City Press, Cromer Post, Pilot, Buckingham Express, Brixtonian, Lincoln Leader, &c., &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (31st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.)

THURSDAY (1st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (3rd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (31st).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. General Meeting. Ordinary Meeting. Address:—Dr. F. Bagshawe (incoming President, St. Leonard's-on-Sea): Points in the Development of Seaside Towns.

THURSDAY (1st).—CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—8 P.M. Rev. T. W. Sharpe: Treatment of Feeble-minded Children in Asylums.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—Dr. R. Maguire: The Prognosis and Treatment of Tuberculous Disease of the Lungs. (Harveian Lecture.)

FRIDAY (2nd).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith-road, W.).—8.30 P.M. Mr. G. L. Cheatle: Some Personal Experiences of the late Boer War.—Mr. J. Clarke: Some Surgical Phases of Rheumatoid Arthritis and Gout.—Card Specimen:—Mr. T. R. Atkinson: Tubal Pregnancy.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Clinical Evening.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Paper:—Dr. J. Donelan: Tracheal Hæmorrhage in Influenza. Demonstration:—Dr. Donelan: On the Advantages and Disadvantges of certain Positions for Adenoid Operations.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases will be shown by Mr. Stewart Mr. Spencer, Dr. S. Spicer, Dr. D. Grant, Dr. B. Baron, Dr. W. Williams, Mr. Waggett, Mr. Roughton, Dr. Tilley, Mr. W. Wingrave, Mr. C. Symonds, Dr. S. Thompson, and Mr. Lake.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Consultation. (Skin.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Saunders: Headache, its Causes and Treatment.

TUESDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. H. Broadbent: Consultation. (Medical.)

THE HOSPITAL FOR DISEASES OF THE SKIN (Stamford-street, Blackfriars).—5 P.M. Dr. P. S. Abraham: Acne and Rosacea.

WEDNESDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. R. Harrison: Consultation. (Surgical.)

LONDON THROAT HOSPITAL (204, Gt. Portland-street, W.).—5 P.M. Mr. C. Woakes: Examination of the Nose. (Post-graduate Course.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Sir R. D. Powell, Bart.: On some Varieties of Pulmonary Tuberculosis.

THURSDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Consultation. (Surgical.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. H. P. Dunn: Antiseptics in Ocular Surgery.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Garrod: Demonstration of Selected Cases.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Dr. D. Grant: Diagnosis of Diseases causing Pain in the Throat or Difficulty in Swallowing.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Surgical Cases in the Wards. (Post-graduate Course.)

FRIDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—2–3.30 P.M. Dr. H. Campbell: Class. Clinical Examination of the Nervous System. 4 P.M. Mr. H. Spicer: Consultation. (Eye.)

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It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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